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PATENT & TRADEMARK OFFICE

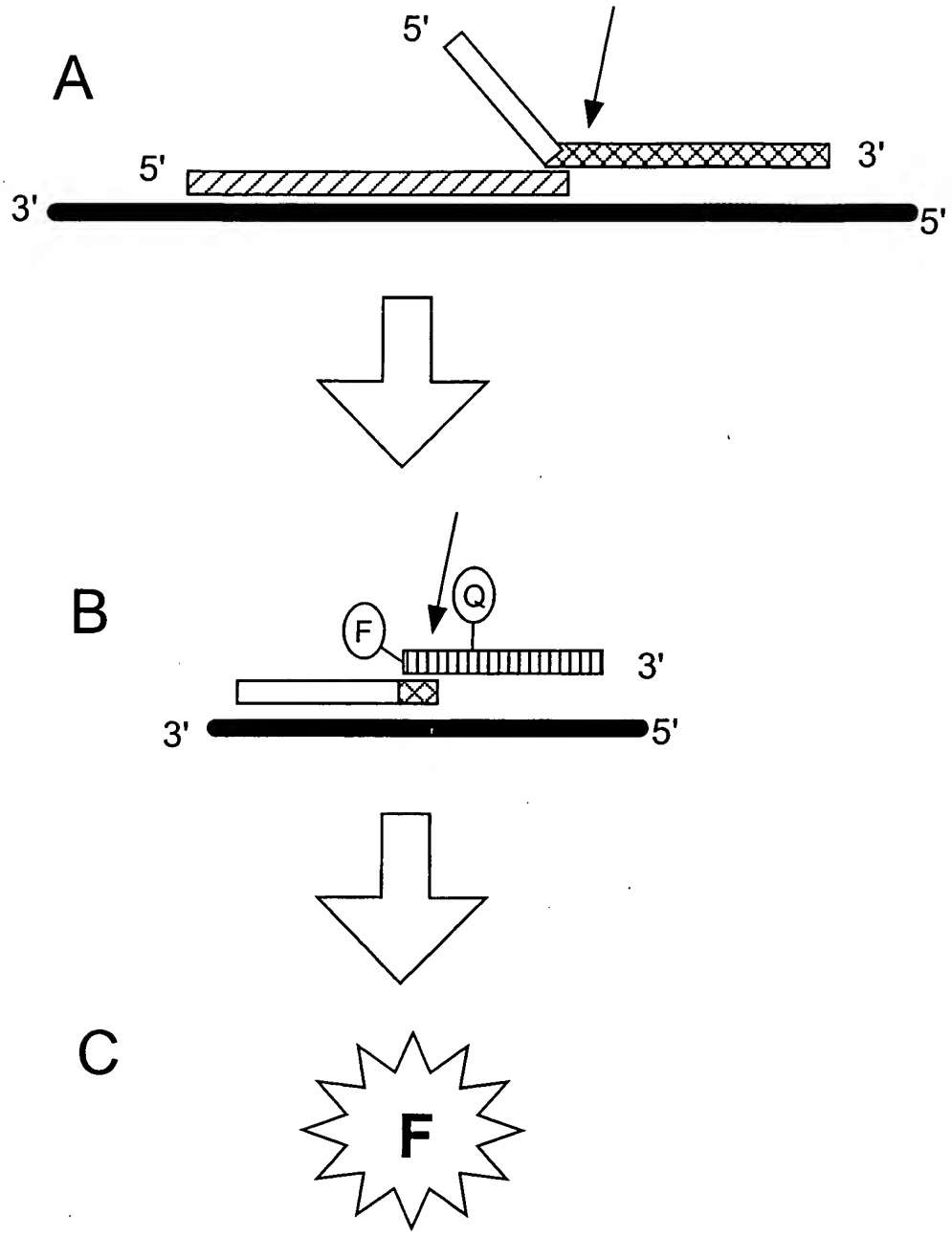
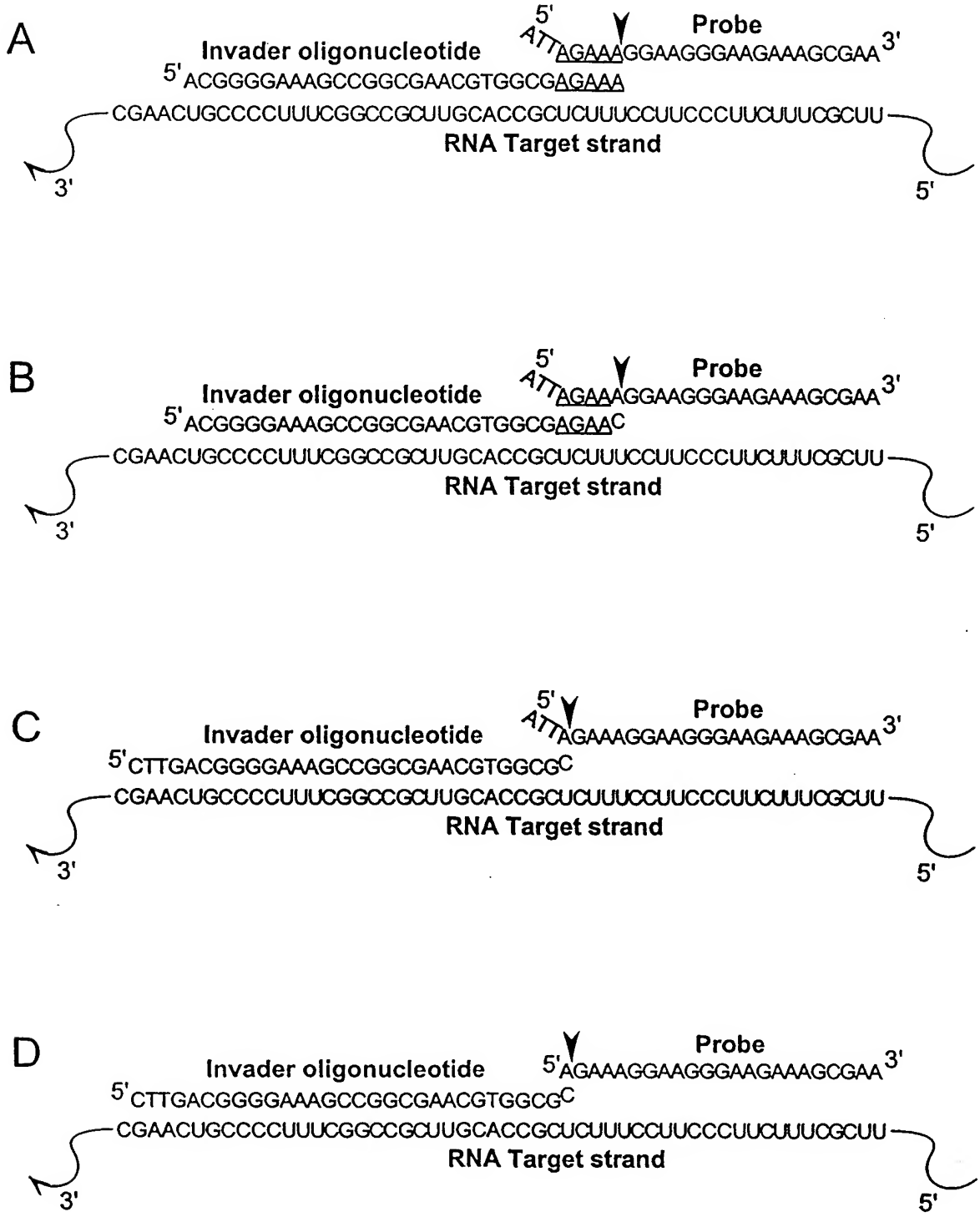


FIGURE 1

FIGURE 2


A
Invader oligonucleotide
5' ACGGGGAAAGCCGGCGAACGTGGCGAGAAA
Probe
5' ATTAGAAAGGAAGGGAAGAAAGCGAA 3'
CGAACUGCCCCUUUCGGCCGCUUGCACCGCUCUUUCCUUCCCUUCUUUCGCUU
RNA Target strand
3'
5'
B
Invader oligonucleotide
5' ACGGGGAAAGCCGGCGAACGTGGCGAGAAAC
Probe
5' ATTAGAAAGGAAGGGAAGAAAGCGAA 3'
CGAACUGCCCCUUUCGGCCGCUUGCACCGCUCUUUCCUUCCCUUCUUUCGCUU
RNA Target strand
3'
5'
C
Invader oligonucleotide
5' CTTGACGGGGAAAGCCGGCGAACGTGGCGC
Probe
5' ATTAGAAAGGAAGGGAAGAAAGCGAA 3'
CGAACUGCCCCUUUCGGCCGCUUGCACCGCUCUUUCCUUCCCUUCUUUCGCUU
RNA Target strand
3'
5'
D
Invader oligonucleotide
5' CTTGACGGGGAAAGCCGGCGAACGTGGCGC
Probe
5' AGAAAGGAAGGGAAGAAAGCGAA 3'
CGAACUGCCCCUUUCGGCCGCUUGCACCGCUCUUUCCUUCCCUUCUUUCGCUU
RNA Target strand
3'
5'

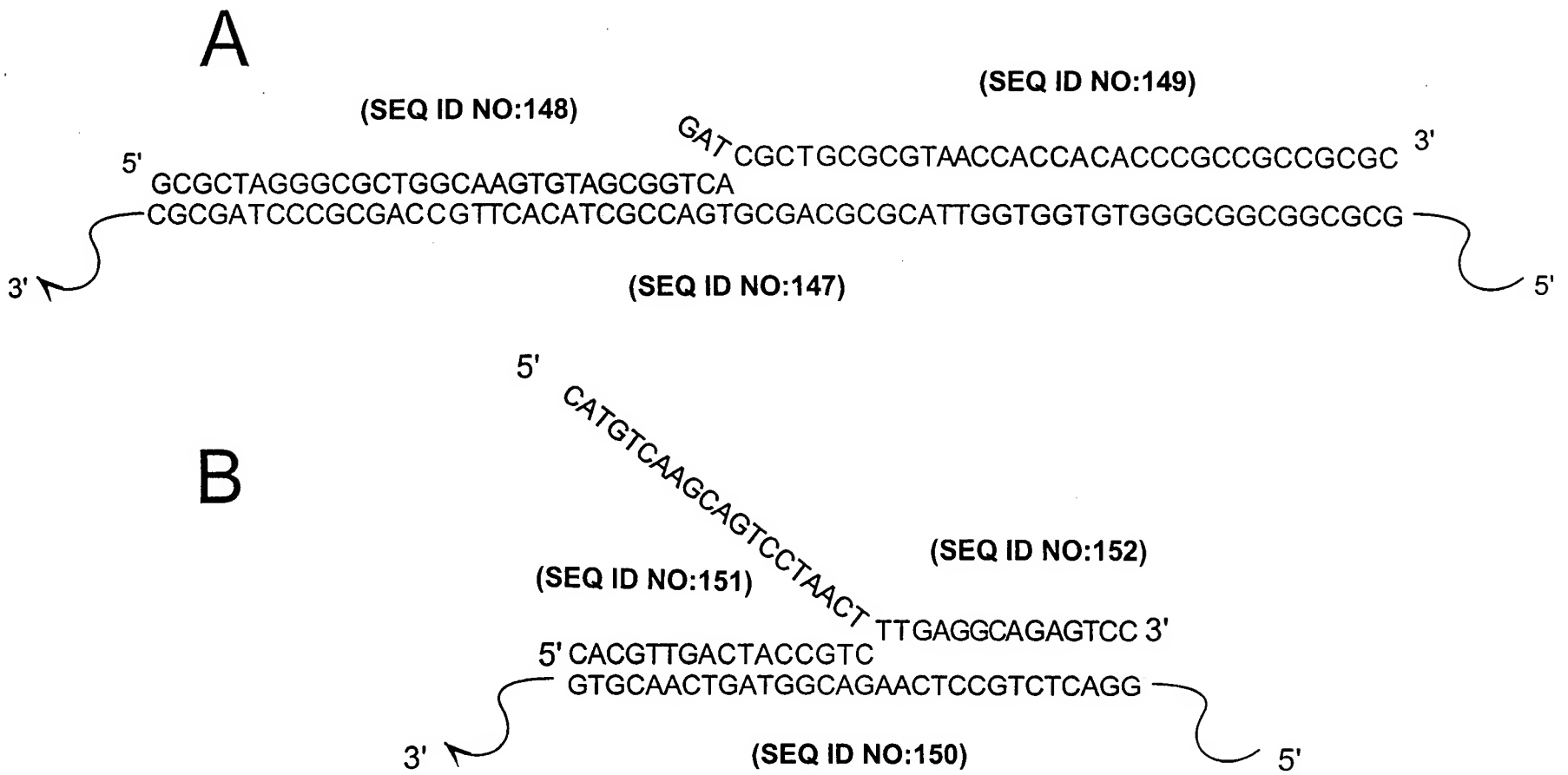

A
(SEQ ID NO:148)
(SEQ ID NO:149)
5'
GCGCTAGGGCGCTGGCAAGTGTAGCGGTCA
GAT CGCTGCGCGTAACCACCACACCCGCCGCCGCGC 3'
CGCGATCCCGCGACCGTTCACATCGCCAGTGCGACGCGCATTGGTGGTGTGGGCGGCGGCGCG
3'
(SEQ ID NO:147)
5'
B
5'
CATGTCAAGCAGTCCTAACT
(SEQ ID NO:152)
(SEQ ID NO:151)
TTGAGGCAGAGTCC 3'
5' CACGTTGACTACCGTC
GTGCAACTGATGGCAGAACTCCGTCTCAGG
3'
(SEQ ID NO:150)
5'

FIGURE 3

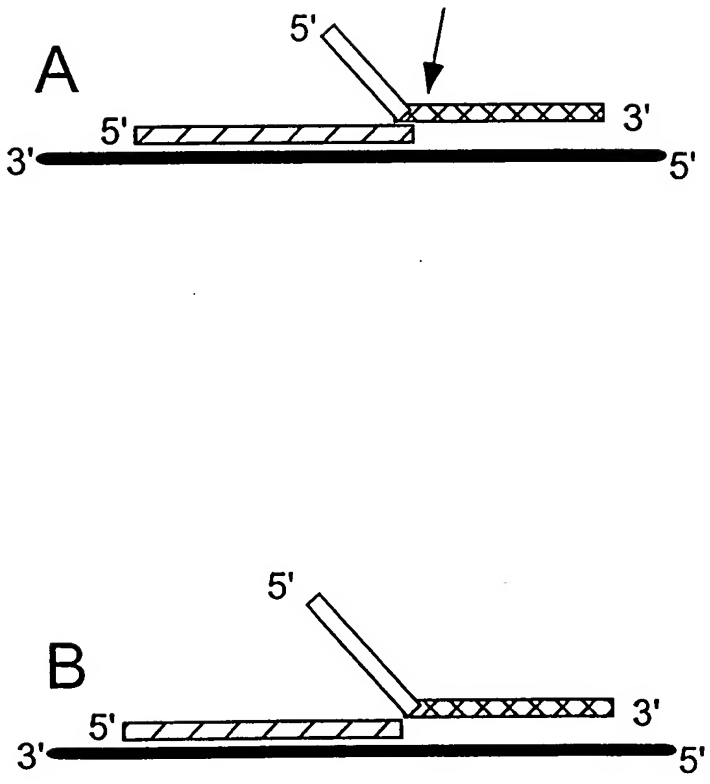


FIGURE 4

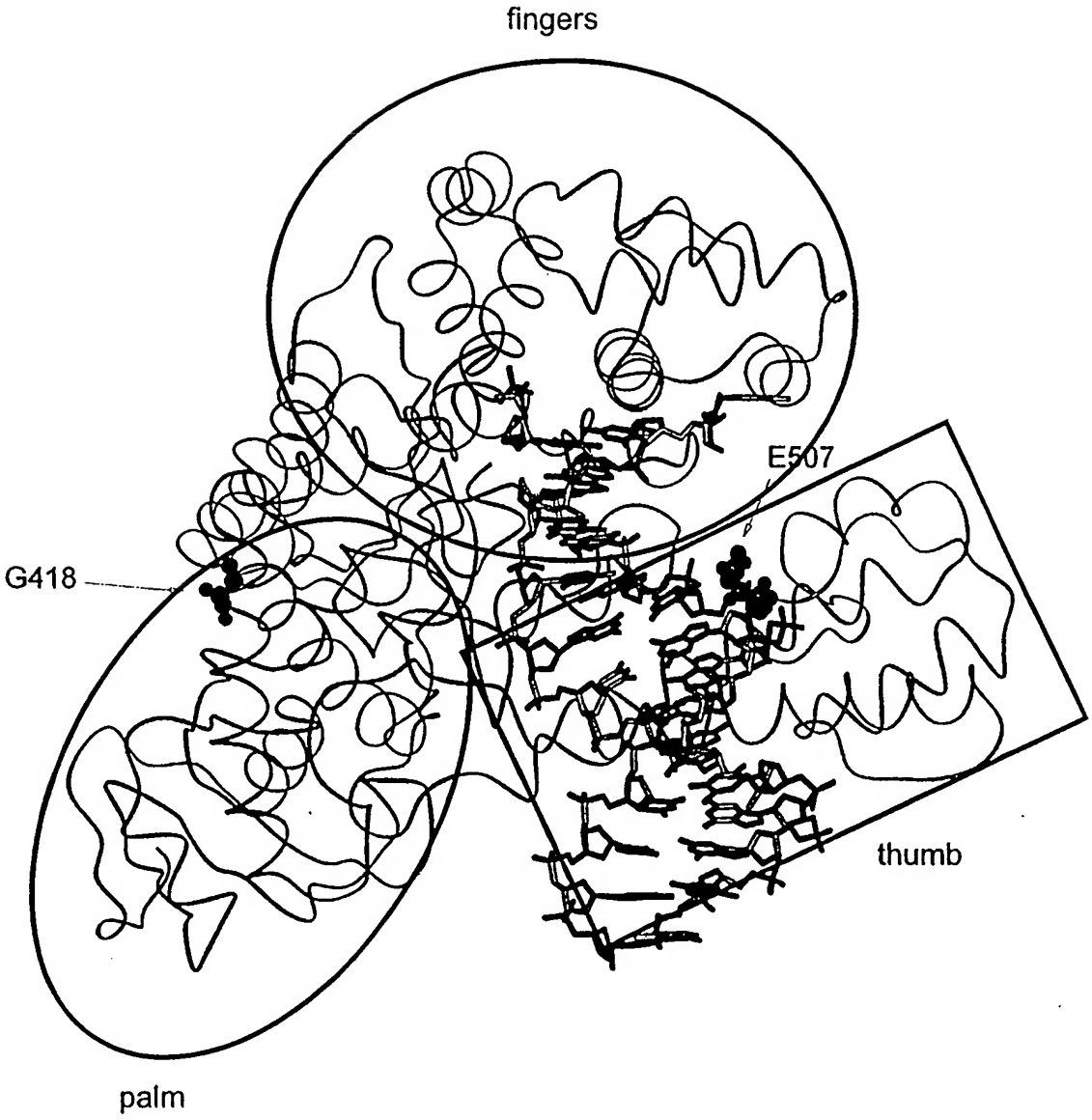


FIGURE 5

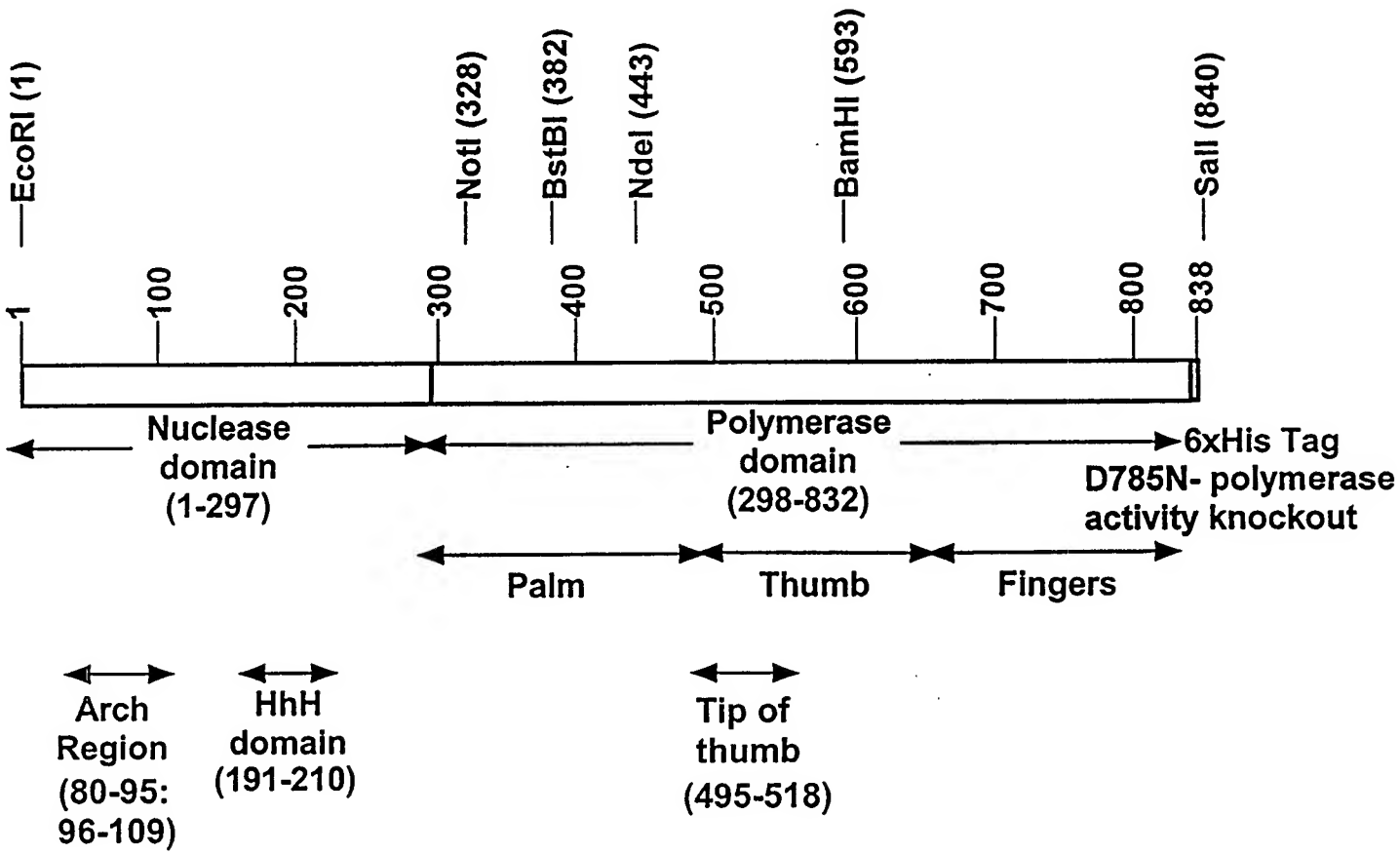

EcoRI (1)
NotI (328)
BstBI (382)
NdeI (443)
BamHI (593)
SalI (840)
1
100
200
300
400
500
600
700
800
838
Nuclease domain (1-297)
Polymerase domain (298-832)
6xHis Tag
D785N- polymerase activity knockout
Palm
Thumb
Fingers
Arch Region (80-95: 96-109)
HhH domain (191-210)
Tip of thumb (495-518)

FIGURE 6

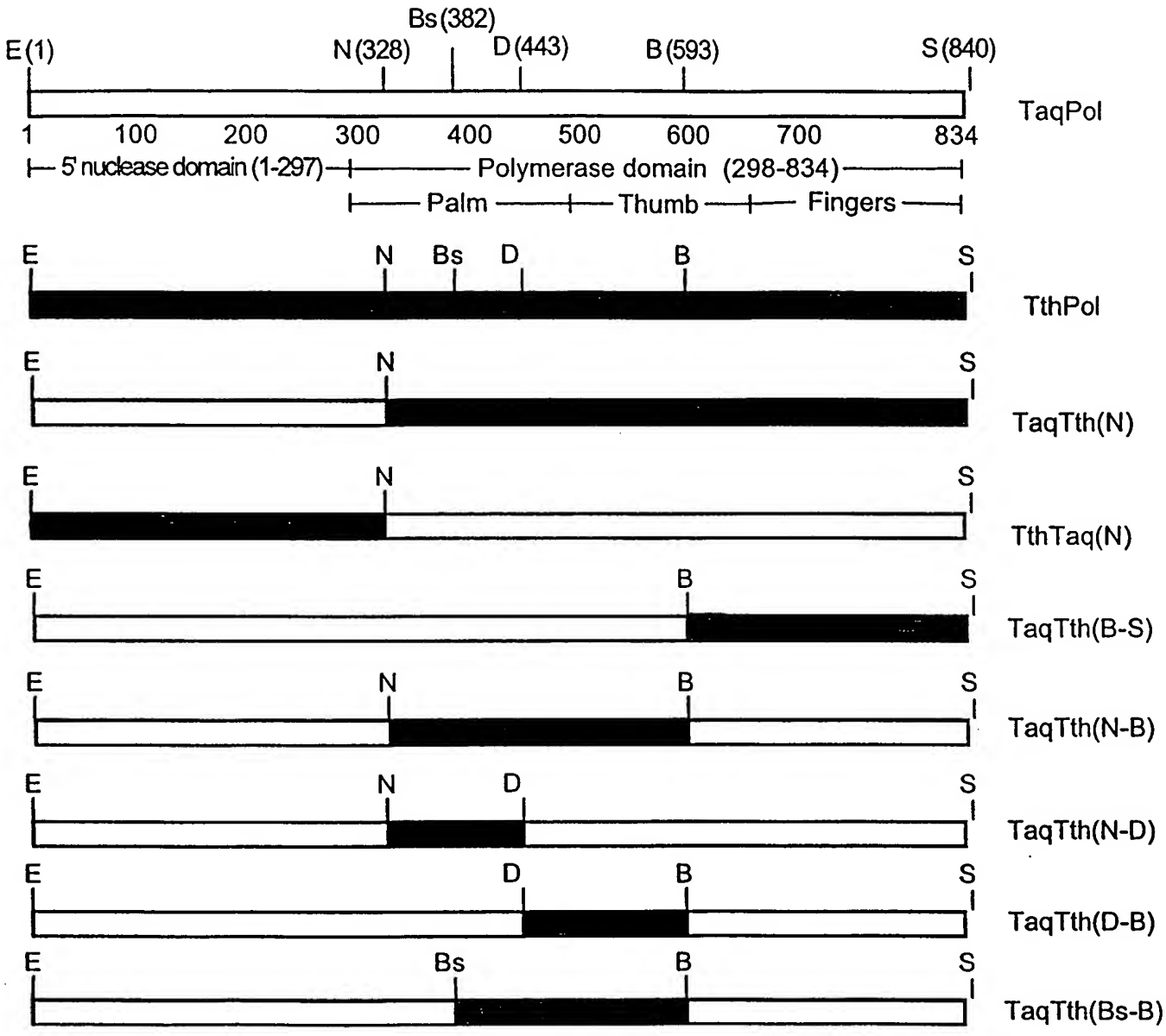

E(1)
Bs(382)
N(328)
D(443)
B(593)
S(840)
TaqPol
1
100
200
300
400
500
600
700
834
5' nuclease domain (1-297)
Polymerase domain (298-834)
Palm
Thumb
Fingers
E
N
Bs
D
B
S
TthPol
TaqTth(N)
TthTaq(N)
TaqTth(B-S)
TaqTth(N-B)
TaqTth(N-D)
TaqTth(D-B)
TaqTth(Bs-B)

FIGURE 7

FIG. 8A

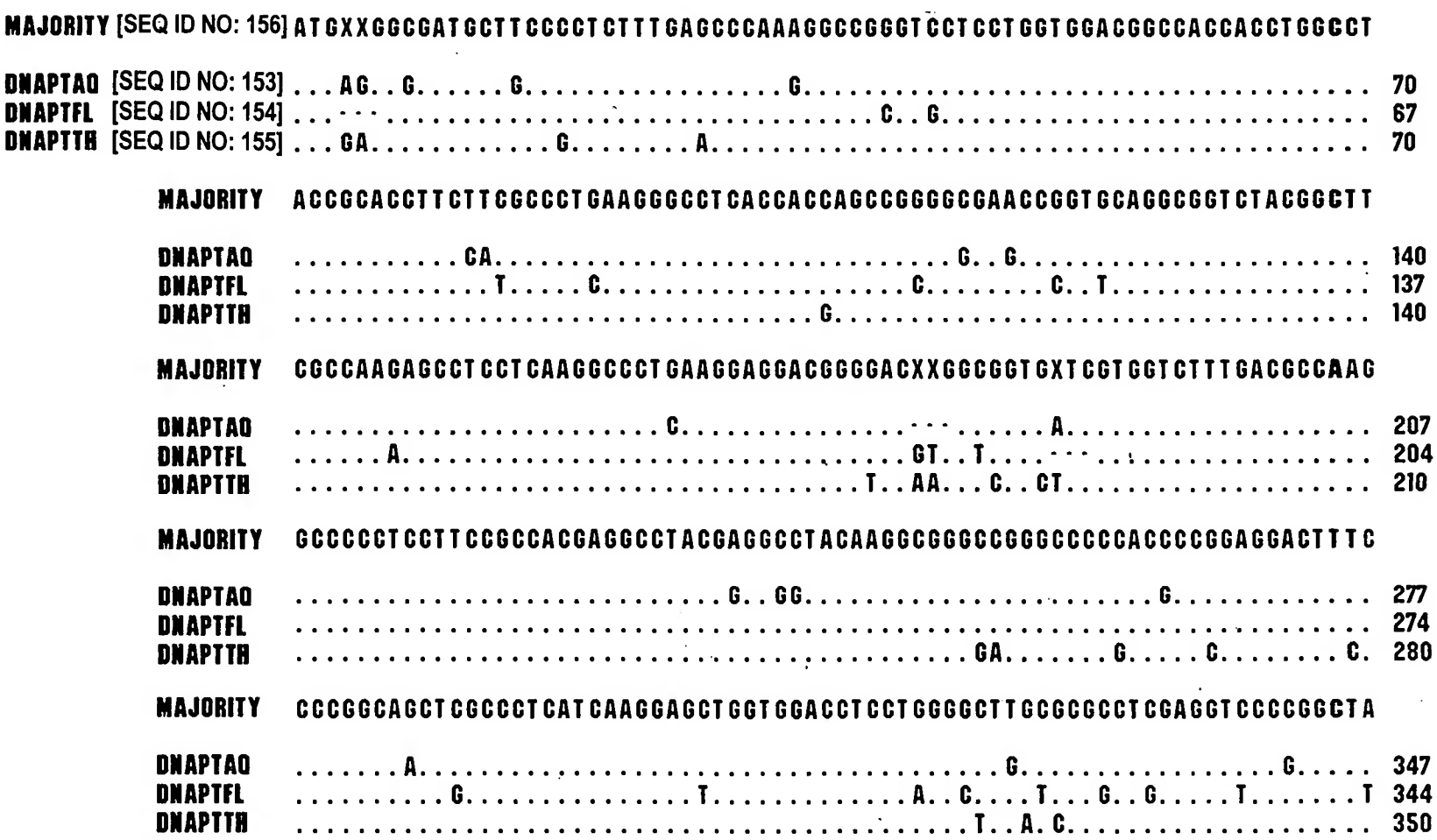

MAJORITY [SEQ ID NO: 156] ATGXXGGCGATGCTTCCCCTCTTTGAGCCCAAAGGCCGGGTCCTCCTGGTGGACGGCCACCACCTGGCCT
DNAPTAQ [SEQ ID NO: 153] ...AG..G.....G.....G..... 70
DNAPTFL [SEQ ID NO: 154] .....C..G..... 67
DNAPTTH [SEQ ID NO: 155] ...GA.....G.....A..... 70
MAJORITY ACCGCACCTTCTTCGCCCTGAAGGGCCTCACCACCAGCCGGGGCGAACCGGTGCAGGCGGTCTACGGCTT
DNAPTAQ .....CA.....G..G..... 140
DNAPTFL .....T.....C.....C.....C..T..... 137
DNAPTTH .....G..... 140
MAJORITY CGCCAAGAGCCTCCTCAAGGCCCTGAAGGAGGACGGGGACXXGGCGGTGXTCGTGGTCTTTGACGCCAAG
DNAPTAQ .....C.....A..... 207
DNAPTFL .....A.....GT..T..... 204
DNAPTTH .....T..AA...C..CT..... 210
MAJORITY GCCCCCTCCTTCCGCCACGAGGCCTACGAGGCCTACAAGGCGGGCCGGGCCCCCACCCCGGAGGACTTTC
DNAPTAQ .....G..GG.....G..... 277
DNAPTFL 274
DNAPTTH .....GA.....G.....C.....C. 280
MAJORITY CCCGGCAGCTCGCCCTCATCAAGGAGCTGGTGGACCTCCTGGGGCTTGCGCGCCTCGAGGTCCCCGGCTA
DNAPTAQ .....A.....G.....G..... 347
DNAPTFL .....G.....T.....A..C....T...G..G.....T.....T 344
DNAPTTH .....T..A.C..... 350

FIG. 8B

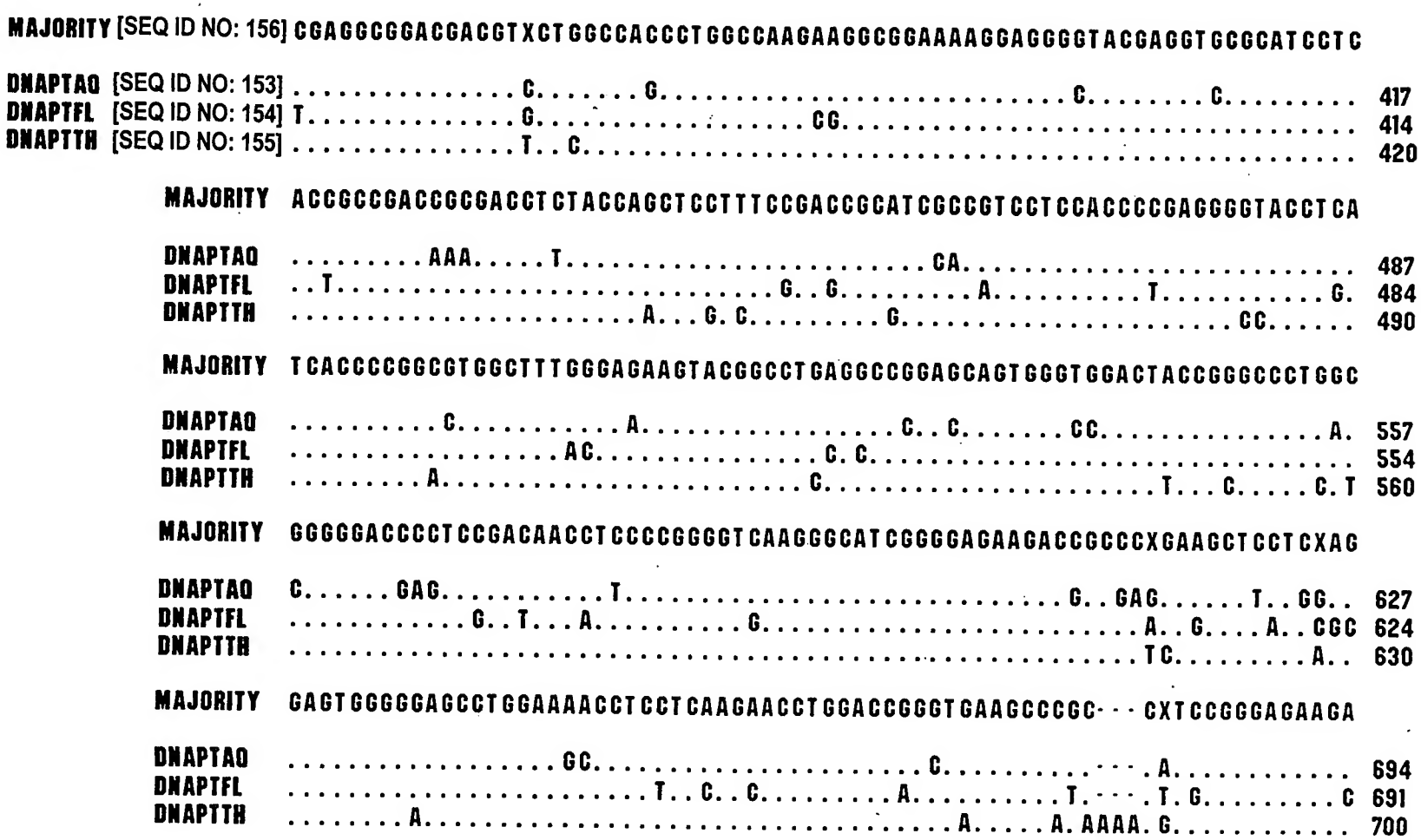

MAJORITY [SEQ ID NO: 156] CGAGGCGGACGACGTXCTGGCCACCCTGGCCAAGAAGGCGGAAAAGGAGGGGTACGAGGTGCGCATCCTC
DNAPTAQ [SEQ ID NO: 153] .....C.....G.....C.....C..... 417
DNAPTFL [SEQ ID NO: 154] T.....G.....CG..... 414
DNAPTTH [SEQ ID NO: 155] .....T..C..... 420
MAJORITY ACCGCCGACCGCGACCTCTACCAGCTCCTTTCCGACCGCATCGCCGTCCTCCACCCCGAGGGGTACCTCA
DNAPTAQ .....AAA.....T.....CA..... 487
DNAPTFL ..T.....G..G.....A.....T.....G. 484
DNAPTTH .....A...G.C.....G.....CC..... 490
MAJORITY TCACCCCGGCGTGGCTTTGGGAGAAGTACGGCCTGAGGCCGGAGCAGTGGGTGGACTACCGGGCCCTGGC
DNAPTAQ .....C.....A.....C..C.....CC.....A. 557
DNAPTFL .....AC.....C.C..... 554
DNAPTTH .....A.....C.....T...C.....C.T 560
MAJORITY GGGGGACCCCTCCGACAACCTCCCCGGGGTCAAGGGCATCGGGGAGAAGACCGCCCXGAAGCTCCTCXAG
DNAPTAQ C.....GAG.....T.....G..GAG.....T..GG.. 627
DNAPTFL .....G..T...A.....G.....A..G....A..CGC 624
DNAPTTH .....TC.....A.. 630
MAJORITY GAGTGGGGGAGCCTGGAAAACCTCCTCAAGAACCTGGACCGGGTGAAGCCCGC---CXTCCGGGAGAAGA
DNAPTAQ .....GC.....C.....A..... 694
DNAPTFL .....T..C..C.....A.....T.---.T.G.....C 691
DNAPTTH .....A.....A.....A.AAAA.G..... 700

FIG. 8C

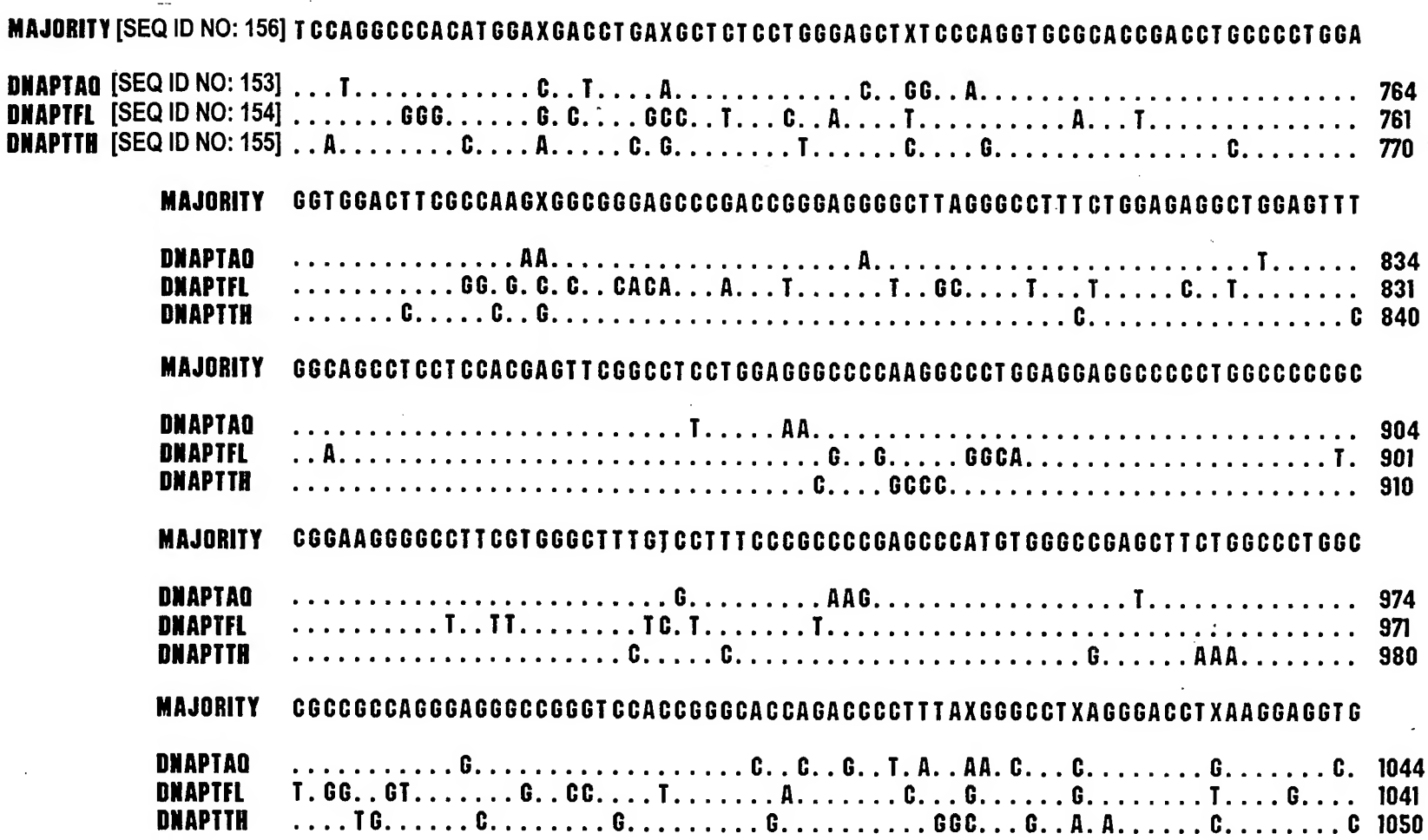

MAJORITY [SEQ ID NO: 156] TCCAGGCCCACATGGAXGACCTGAXGCTCTCCTGGGAGCTXTCCCAGGTGCGCACCGACCTGCCCCTGGA
DNAPTAQ [SEQ ID NO: 153] ...T.....C..T....A.....C..GG..A..... 764
DNAPTFL [SEQ ID NO: 154] .....GGG.....G.C....GCC..T...C..A....T.....A...T..... 761
DNAPTTH [SEQ ID NO: 155] ..A.....C....A.....C.G.....T.....C....G.....C..... 770
MAJORITY GGTGGACTTCGCCAAGXGGCGGGAGCCCGACCGGGAGGGGCTTAGGGCCTTTCTGGAGAGGCTGGAGTTT
DNAPTAQ .....AA.....A.....T..... 834
DNAPTFL .....GG.G.C.C..CACA...A...T.....T..GC....T...T.....C..T..... 831
DNAPTTH .....C.....C..G.....C.....C 840
MAJORITY GGCAGCCTCCTCCACGAGTTCGGCCTCCTGGAGGGCCCCAAGGCCCTGGAGGAGGCCCCCTGGCCCCCGC
DNAPTAQ .....T.....AA..... 904
DNAPTFL ..A.....G..G.....GGCA.....T. 901
DNAPTTH .....C....GCCC..... 910
MAJORITY CGGAAGGGGCCTTCGTGGGCTTTGTCCTTTCCCGCCCCGAGCCCATGTGGGCCGAGCTTCTGGCCCTGGC
DNAPTAQ .....G.....AAG.....T..... 974
DNAPTFL .....T..TT.....TC.T.....T..... 971
DNAPTTH .....C.....C.....G.....AAA..... 980
MAJORITY CGCCGCCAGGGAGGGCCGGGTCCACCGGGCACCAGACCCCTTTAXGGGCCTXAGGGACCTXAAGGAGGTG
DNAPTAQ .....G.....C..C..G..T.A..AA.C...C.....G.....C. 1044
DNAPTFL T.GG..GT.....G..CC....T.....A.....C...G.....G.....T....G.... 1041
DNAPTTH ....TG.....C.....G.....G.....GGC...G..A.A.....C.....C 1050

FIG. 8D

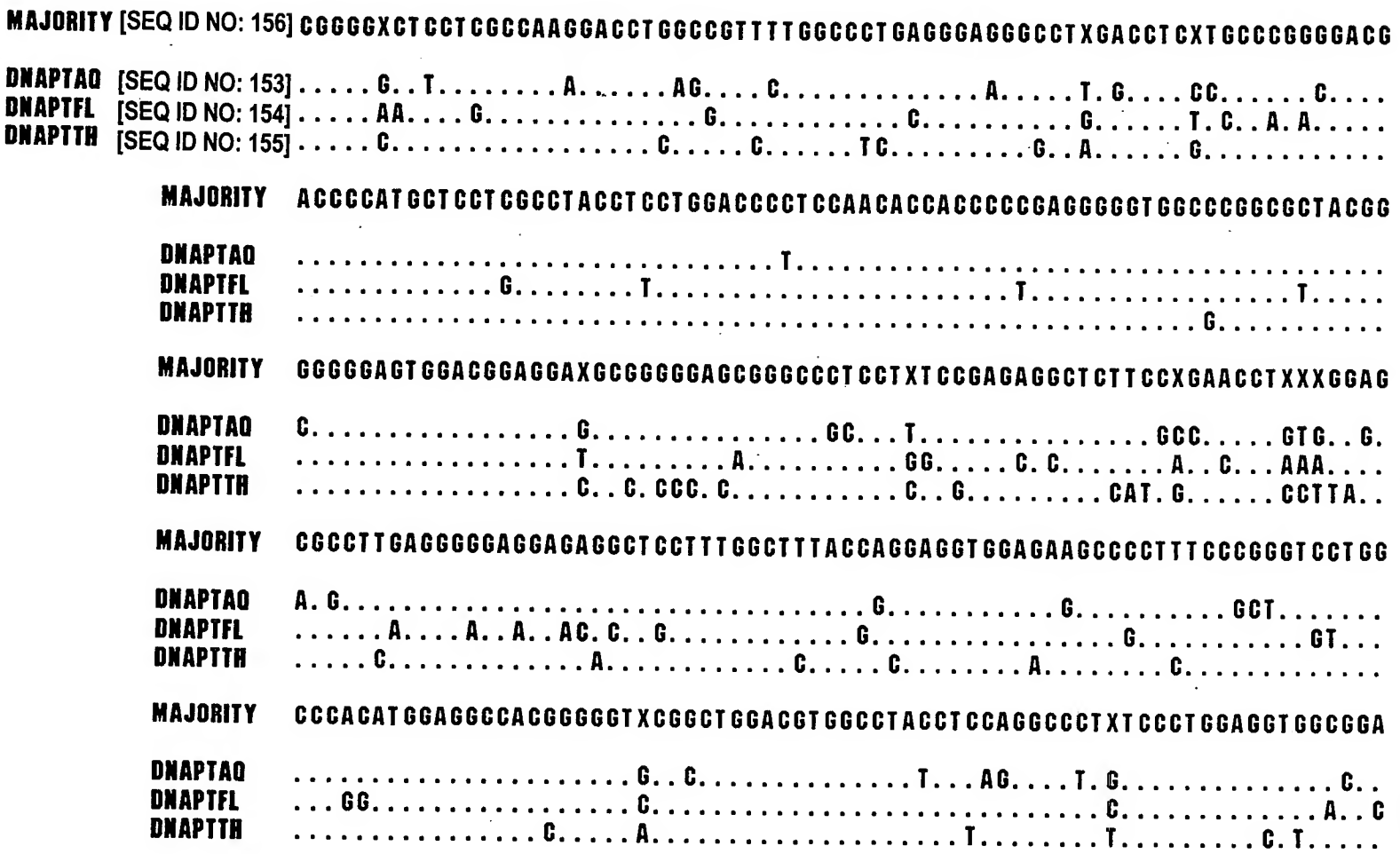

MAJORITY [SEQ ID NO: 156] CGGGGXCTCCTCGCCAAGGACCTGGCCGTTTTGGCCCTGAGGGAGGGCCTXGACCTCXTGCCCGGGGACG
DNAPTAQ [SEQ ID NO: 153] .....G..T.....A.....AG....C.....A.....T.G....CC.....C.... 1114
DNAPTFL [SEQ ID NO: 154] .....AA....G.....G.....C.....G.....T.C..A.A..... 1111
DNAPTTH [SEQ ID NO: 155] .....C.....C.....C.....TC.....G..A.....G..... 1120
MAJORITY ACCCCATGCTCCTCGCCTACCTCCTGGACCCCTCCAACACCACCCCCGAGGGGGTGGCCCGGCGCTACGG
DNAPTAQ .....T..... 1184
DNAPTFL .....G.....T.....T.....T..... 1181
DNAPTTH .....G..... 1190
MAJORITY GGGGGAGTGGACGGAGGAXGCGGGGGAGCGGGCCCTCCTXTCCGAGAGGCTCTTCCXGAACCTXXXGGAG
DNAPTAQ C.....G.....GC...T.....GCC.....GTG..G. 1254
DNAPTFL .....T.....A.....GG.....C.C.....A..C...AAA.... 1251
DNAPTTH .....C..C.CCC.C.....C..G.....CAT.G.....CCTTA.. 1260
MAJORITY CGCCTTGAGGGGGAGGAGAGGCTCCTTTGGCTTTACCAGGAGGTGGAGAAGCCCCTTTCCCGGGTCCTGG
DNAPTAQ A.G.....G.....G.....GCT..... 1324
DNAPTFL .....A....A..A..AC.C..G.....G.....G.....GT... 1321
DNAPTTH .....C.....A.....C.....C.....A.....C..... 1330
MAJORITY CCCACATGGAGGCCACGGGGGTXCGGCTGGACGTGGCCTACCTCCAGGCCCTXTCCCTGGAGGTGGCGGA
DNAPTAQ .....G..C.....T...AG....T.G.....C.. 1394
DNAPTFL ...GG.....C.....C.....A..C 1391
DNAPTTH .....C.....A.....T.....T.....C.T..... 1400

FIG. 8E

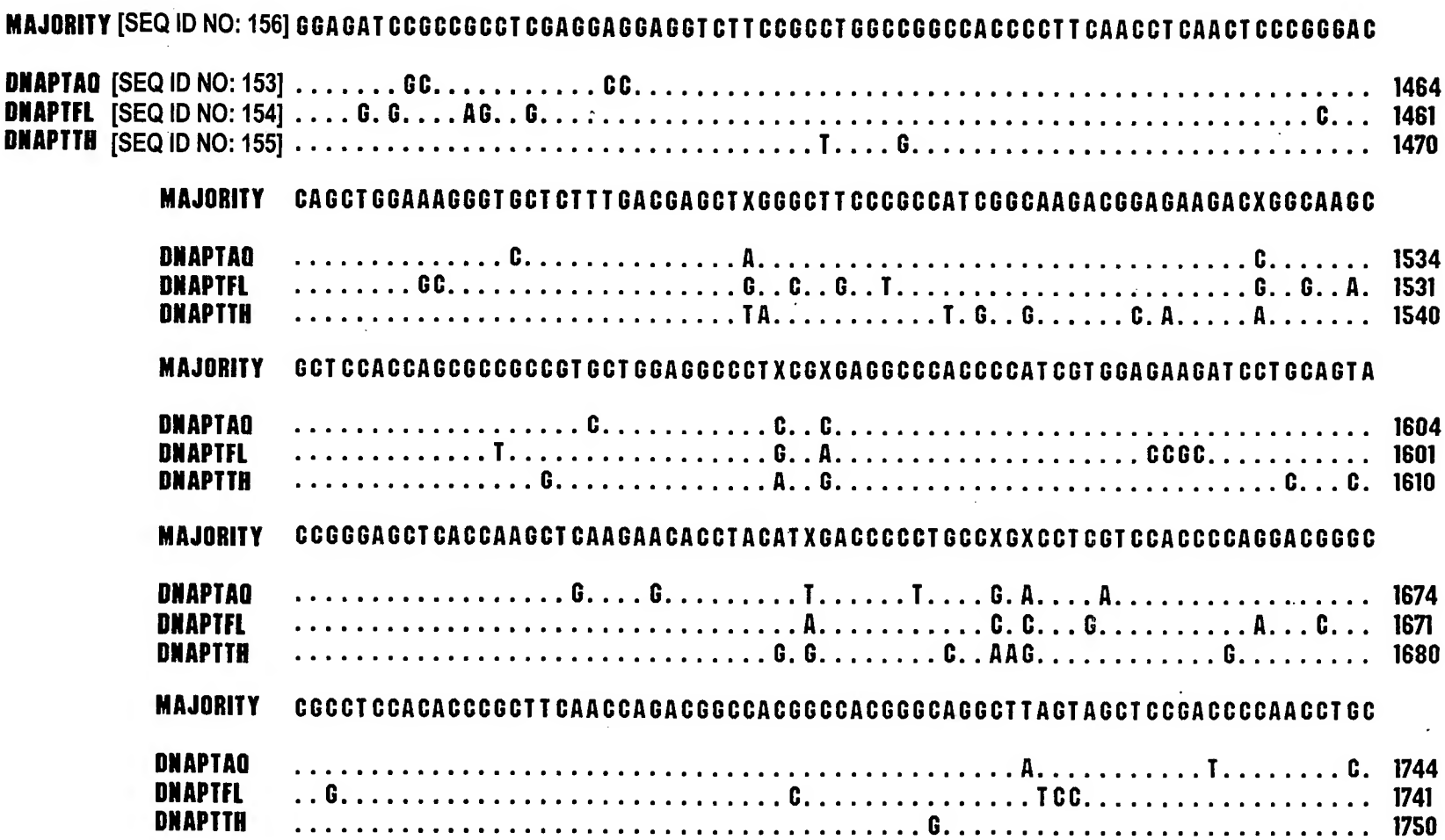

MAJORITY [SEQ ID NO: 156] GGAGATCCGCCGCCTCGAGGAGGAGGTCTTCCGCCTGGCCGGCCACCCCTTCAACCTCAACTCCCGGGAC
DNAPTAQ [SEQ ID NO: 153] .....GC.....CC..... 1464
DNAPTFL [SEQ ID NO: 154] ....G.G....AG..G.....C... 1461
DNAPTTH [SEQ ID NO: 155] .....T....G..... 1470
MAJORITY CAGCTGGAAAGGGTGCTCTTTGACGAGCTXGGGCTTCCCGCCATCGGCAAGACGGAGAAGACXGGCAAGC
DNAPTAQ .....C.....A.....C..... 1534
DNAPTFL .....GC.....G..C..G..T.....G..G..A. 1531
DNAPTTH .....TA.....T.G..G.....C.A.....A..... 1540
MAJORITY GCTCCACCAGCGCCGCCGTGCTGGAGGCCCTXCGXGAGGCCCACCCCATCGTGGAGAAGATCCTGCAGTA
DNAPTAQ .....C.....C..C..... 1604
DNAPTFL .....T.....G..A.....CCGC..... 1601
DNAPTTH .....G.....A..G.....C...C. 1610
MAJORITY CCGGGAGCTCACCAAGCTCAAGAACACCTACATXGACCCCCTGCCXGXCCTCGTCCACCCCAGGACGGGC
DNAPTAQ .....G....G.....T.....T....G.A....A..... 1674
DNAPTFL .....A.....C.C...G.....A...C... 1671
DNAPTTH .....G.G.....C..AAG.....G..... 1680
MAJORITY CGCCTCCACACCCGCTTCAACCAGACGGCCACGGCCACGGGCAGGCTTAGTAGCTCCGACCCCAACCTGC
DNAPTAQ .....A.....T.....C. 1744
DNAPTFL ..G.....C.....TCC..... 1741
DNAPTTH .....G..... 1750

FIG. 8F

```
MAJORITY [SEQ ID NO: 156] AGAACATCCCCGTCCGCACCCCXCTGGGCCAGAGGATCCGCCGGGCCTTCGTGGCCGAGGAGGGXTGGGT

DNAPTAQ  [SEQ ID NO: 153] .....G..T..G.....A.C.....G...C.  1814
DNAPTFL  [SEQ ID NO: 154] .....G.....T.....C.C.....A.....C.....  1811
DNAPTTH  [SEQ ID NO: 155] .....CT.....C...T....C  1820

MAJORITY GTTGGTGGCCCTGGACTATAGCCAGATAGAGCTCCGGGTCCTGGCCCACCTCTCCGGGGACGAGAACCTG

DNAPTAQ  A.....A....G.....C.....  1884
DNAPTFL  .C.....T.T.....C.....T.....T.....  1881
DNAPTTH  .....C.....C.....A.....  1890

MAJORITY ATCCGGGTCTTCCAGGAGGGGAGGGACATCCACACCCAGACCGCCAGCTGGATGTTCGGCGTCCCCCCGG

DNAPTAQ  .....C.....GG.....G..  1954
DNAPTFL  .....T.....TT....C.  1951
DNAPTTH  ...A.....A.....A.....  1960

MAJORITY AGGCCGTGGACCCCCTGATGCGCCGGGCGGCCAAGACCATCAACTTCGGGGTCCTCTACGGCATGTCCGC

DNAPTAQ  .....G..  2024
DNAPTFL  .A.GG..A.....T.....G.....  2021
DNAPTTH  .....GG.G.....C.....  2030

MAJORITY CCACCGCCTCTCCCAGGAGCTTGCCATCCCCTACGAGGAGGCGGTGGCCTTCATTGAGCGCTACTTCCAG

DNAPTAQ  .....A.....T.....CCA.....T...  2094
DNAPTFL  .....GG.....T.....  2091
DNAPTTH  ...TA.G.....T..A.....A  2100
```

FIG. 8G

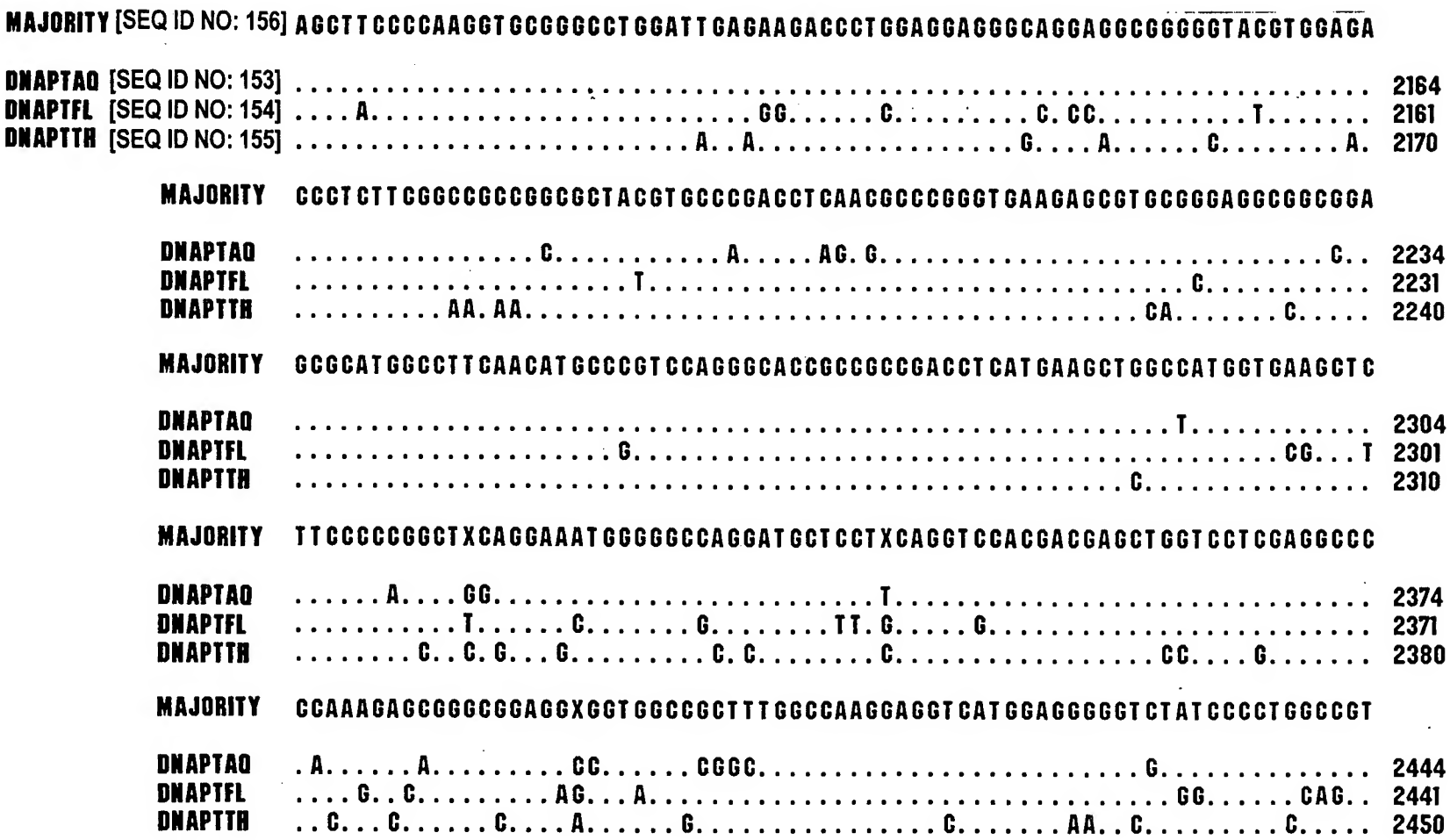

MAJORITY [SEQ ID NO: 156] AGCTTCCCCAAGGTGCGGGCCTGGATTGAGAAGACCCTGGAGGAGGGCAGGAGGCGGGGGTACGTGGAGA
DNAPTAQ [SEQ ID NO: 153] 2164
DNAPTFL [SEQ ID NO: 154] 2161
DNAPTTH [SEQ ID NO: 155] 2170
MAJORITY CCCTCTTCGGCCGCCGGCGCTACGTGCCCGACCTCAACGCCCGGGTGAAGAGCGTGCGGGAGGCGGCGGA
DNAPTAQ 2234
DNAPTFL 2231
DNAPTTH 2240
MAJORITY GCGCATGGCCTTCAACATGCCCGTCCAGGGCACCGCCGCCGACCTCATGAAGCTGGCCATGGTGAAGCTC
DNAPTAQ 2304
DNAPTFL 2301
DNAPTTH 2310
MAJORITY TTCCCCCGGCTXCAGGAAATGGGGGCCAGGATGCTCCTXCAGGTCCACGACGAGCTGGTCCTCGAGGCCC
DNAPTAQ 2374
DNAPTFL 2371
DNAPTTH 2380
MAJORITY CCAAAGAGCGGGCGGAGGXGGTGGCCGCTTTGGCCAAGGAGGTCATGGAGGGGGTCTATCCCCTGGCCGT
DNAPTAQ 2444
DNAPTFL 2441
DNAPTTH 2450

FIG. 8H

MAJORITY [SEQ ID NO: 156]	GCCCCTGGAGGTGGAGGTGGGGATGGGGGAGGACTGGCTCTCCGCCAAGGAGTAG	
DNAPTAQ [SEQ ID NO: 153]	.....A.....GA	2499
DNAPTFL [SEQ ID NO: 154]	.....CC.....	2496
DNAPTTH [SEQ ID NO: 155]	.....T.....GT...	2505

FIG. 9A

```
MAJORITY [SEQ ID NO: 159] MXAML PLFEPKGRVLLVDGHHLAYRTFFALKGLTTSRGEPVQAVYGFAKSLLKALKEDG- DAVXVVFDAK

TAQ PRO  [SEQ ID NO: 157] . RG. . . . . H. . . . . - . . . I . . . . . 69
TFL PRO  [SEQ ID NO: 158] . - . . . . . - . V. V. . . . . 68
TTH PRO  [SEQ ID NO: 1   ] . E. . . . . YK. . F. . . . . 70

MAJORITY  APSFRHEAYEAYKAGRAPTPEDFPRQLALI KELVDLLGLXRLEVPGYEADDVLATLAKKAEKEGYEVRI L

TAQ PRO   . . . . . GG. . . . . A. . . . . S. . . . . 139
TFL PRO   . . . . . V. . . . . F. . . . . R. . . . . 138
TTH PRO   . . . . . FT. . . . . 140

MAJORITY  TADRDLYQLLSDRI AVLHPEGYLI TPAWLWEKYGLRPEQWVDYRALXGDPSDNLPGVKGI GEKTAXKLLX

TAQ PRO   . . . K. . . . . H. . . . . D. . A. . . . . T. . E. . . . . R. . . E 209
TFL PRO   . . . . . E. . . I. . . . . Y. . . . . A. . . . . I. . . . . QR. I R 208
TTH PRO   . . . . . V. . . V. . . . . H. . . . E. . . . . F. . . V. . . . . L. . . K 210

MAJORITY  EWGSLENLLKNLDRVKP- XXREKI XAHME DLXLSXXLSXVRTDLPLEVDFAXRREPDREGLRAFLERLEF

TAQ PRO   . . . . . A. . . . . L. . - AI . . . . L. . . D. . K. . WD. AK. . . . . K. . . . . R. . . . . 278
TFL PRO   . . . . . FQH. . Q. . . - SL. . . LQ. G. . A. A. . RK. . Q. H. . . . . GR. . T. NL. . . . . 277
TTH PRO   . . . . . ENV. . . . K. . L. . . R. . LE. . R. . . . . L. QG. . . . . 280

MAJORITY  GSLLHEFGLLEXPKALEEAPWPPPEGAFVGFVLSRPEPMWAELLALAAARXGRVHRAXDPLXGLRDLKEV

TAQ PRO   . . . . . S. . . . . K. . . . . D. . . . . G. . . . . PE. YKA. . . . . A 348
TFL PRO   . . . . . G. . . A. . . . . L. . SF. . . . . G. WE. . L. . . Q. . . R. . . . . G. 347
TTH PRO   . . . . . A. AP. . . . . K. . . . C. D. . . . . A. . . A. . K. . . . . 350
```

FIG. 9B

```
MAJORITY [SEQ ID NO: 159] RGLLAKDLAVLALREGLDLXPGDDPMLLAYLLDPSNTTPEGVARRYGGEWTEDAGERALLSERLFXNLXX

TAQ PRO  [SEQ ID NO: 157] .....S.....G.P.....E.....A.....A..WG 418
TFL PRO  [SEQ ID NO: 158] ..I.....F.E.....A....QT.KE 417
TTH PRO  [SEQ ID NO: 1  ] .....S.....V.....AH.....HR..LK 420

MAJORITY RLEGEERLLWLYXEVEKPLSRVLAHMEATGVRLDVAYLQALSLEVAEEIRRLEEEVFRLAGHPFNLNSRD

TAQ PRO  .....R...R...A.....R.....A...A..... 488
TFL PRO  ..K.....E.....R.....EA.V.Q..... 487
TTH PRO  .....K.....H.....L..... 490

MAJORITY QLERVLFDELGLPAIGKTEKTGKRSTSAAVLEALREAHPIVEKILQYRELTKLKNTYIDPLPXLVHPRTG

TAQ PRO  .....S.....D.I..... 558
TFL PRO  .....DR.....A....K.. 557
TTH PRO  .....R...L...Q.....H.....V....S..... 560

MAJORITY RLHTRFNQTATATGRLSSSDPNLQNIPVRTPLGQRIRRAFVAEEGWXLVALDYSQIELRVLAHLSGDENL

TAQ PRO  .....I.....L..... 628
TFL PRO  .....V..V..... 627
TTH PRO  .....A..A..... 630

MAJORITY IRVFQEGRDIHTQTASWMFGVPPEAVDPLMRRAAKTINFGVLYGMSAHRLSQELAIPYEEAVAFIERYFQ

TAQ PRO  .....E.....R.....Q..... 698
TFL PRO  .....S..G.....G..S..... 697
TTH PRO  .....K.....V..... 700
```

FIG. 9C

```
MAJORITY [SEQ ID NO: 159] SFPKVRAWIEKTLEEGRRRGYVETLFGRRRYVPDLNARVKSVREAAERMAFNMPVQGTAADLMKLAMVKL

TAQ PRO [SEQ ID NO: 157] ..........................................E.....................................  768
TFL PRO [SEQ ID NO: 158] .Y.........G.....................................................R.  767
TTH PRO [SEQ ID NO: 1  ] ..................K.....................................................  770

MAJORITY FPRLXEMGARMLLQVHDELVLEAPKXRAEXVAALAKEVMEGVYPLAVPLEVEVGXGEDWLSAKEX

TAQ PRO  ....E.....................E...A..R.....................I.........  833
TFL PRO  ....Q.L...................D...R.............W..Q.........L.........  831
TTH PRO  ....R...............L....QA...E.......A..KA.............M........G  835
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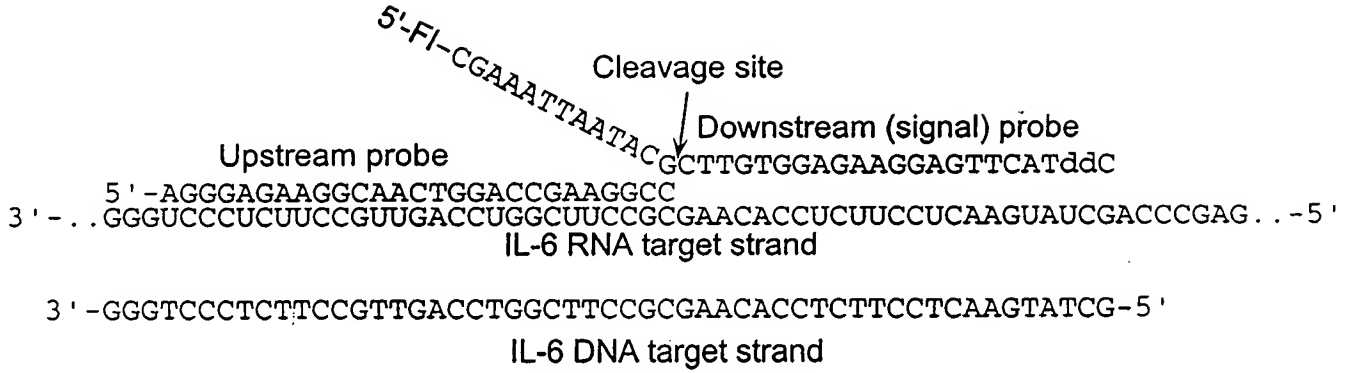

5'-Fl-CGAAATTAATAC
Cleavage site
Downstream (signal) probe
Upstream probe
GCTTGTGGAGAAGGAGTTCATddC
5'-AGGGAGAAGGCAACTGGACCGAAGGCC
3'-..GGGUCCCUCUUCCGUUGACCUGGCUUCCGCGAACACCUCUUCCUCAAGUAUCGACCCGAG..-5'
IL-6 RNA target strand
3'-GGGTCCCTCTTCCGTTGACCTGGCTTCCGCGAACACCTCTTCCTCAAGTATCG-5'
IL-6 DNA target strand

FIGURE 10

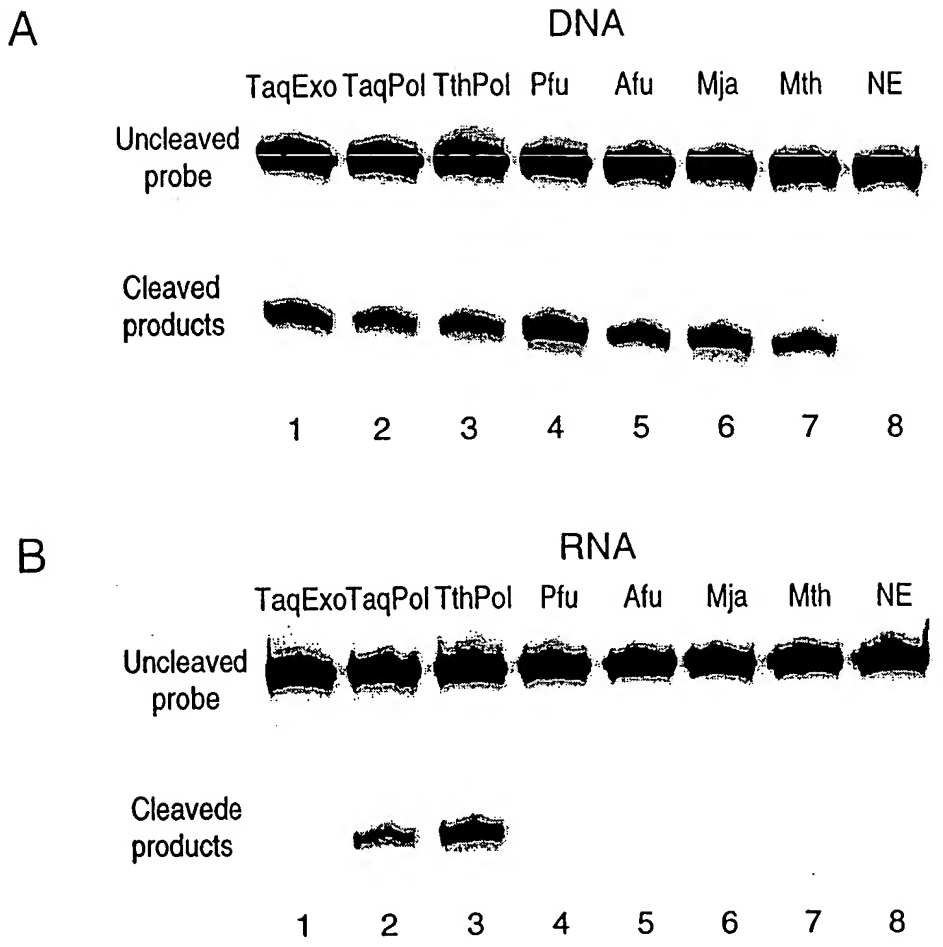

A
DNA
TaqExo TaqPol TthPol Pfu Afu Mja Mth NE
Uncleaved probe
Cleaved products
1 2 3 4 5 6 7 8
B
RNA
TaqExoTaqPol TthPol Pfu Afu Mja Mth NE
Uncleaved probe
Cleavede products
1 2 3 4 5 6 7 8

FIGURE 11

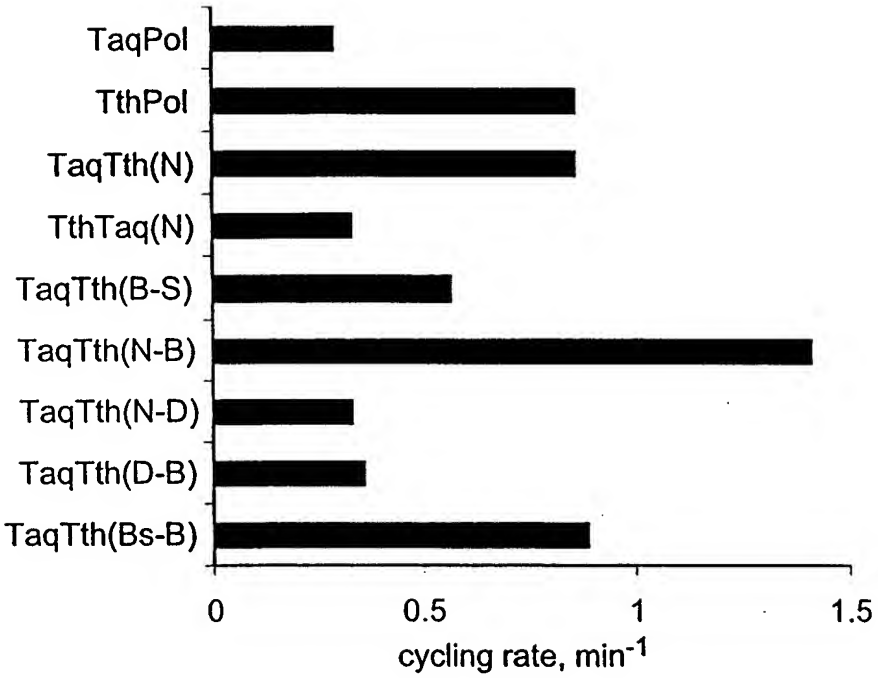

TaqPol
TthPol
TaqTth(N)
TthTaq(N)
TaqTth(B-S)
TaqTth(N-B)
TaqTth(N-D)
TaqTth(D-B)
TaqTth(Bs-B)
0
0.5
1
1.5
cycling rate, min-1

FIGURE 12

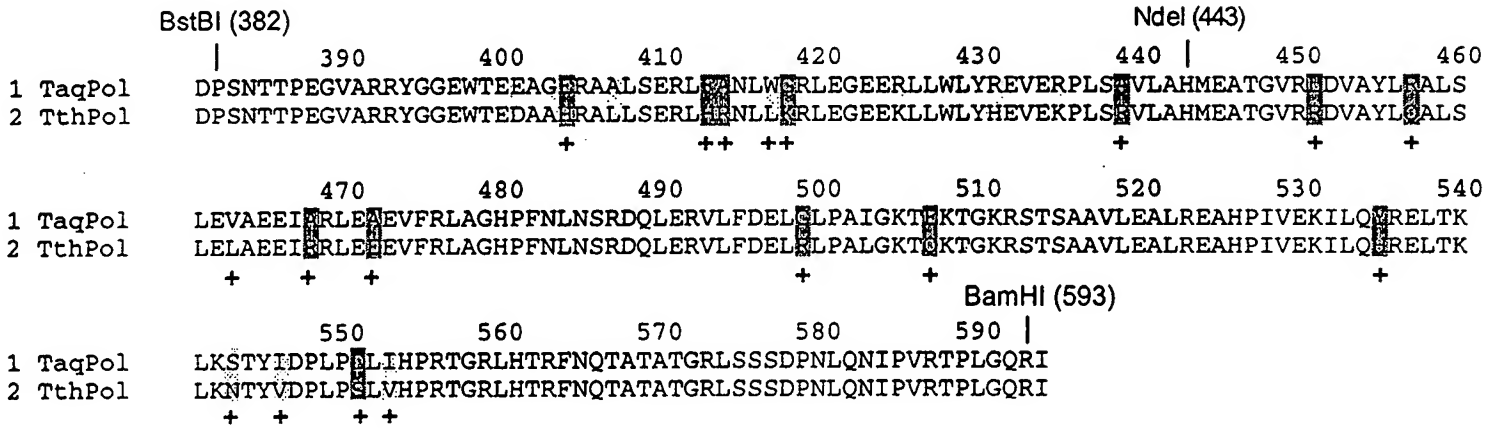


FIGURE 13

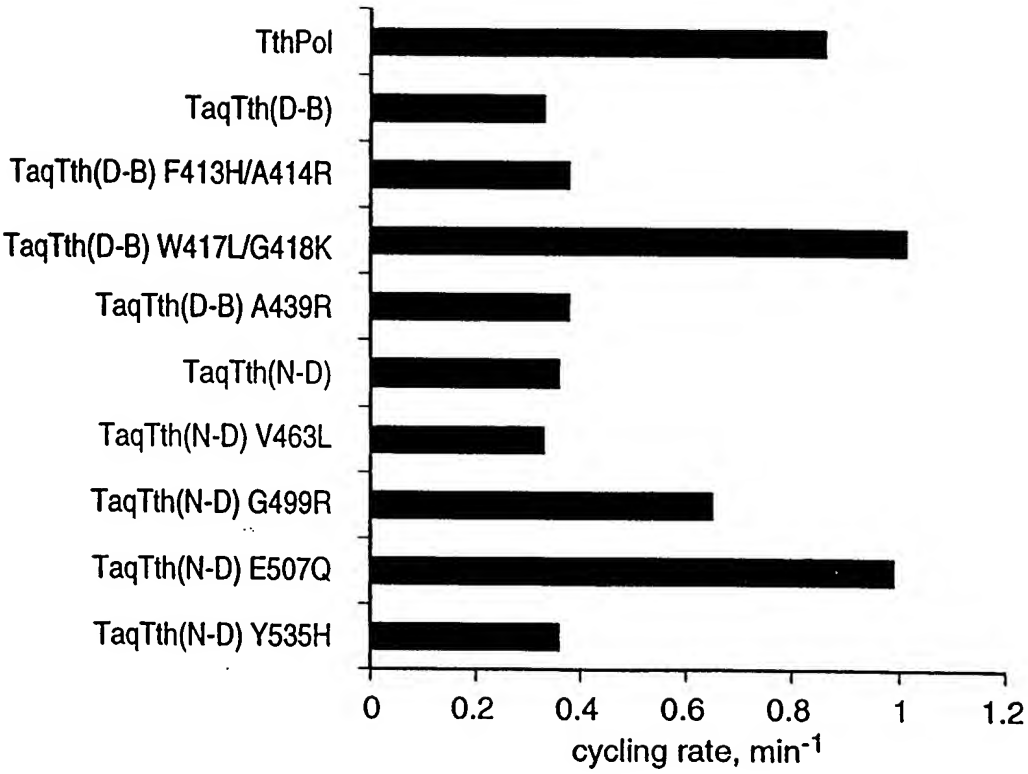

TthPol
TaqTth(D-B)
TaqTth(D-B) F413H/A414R
TaqTth(D-B) W417L/G418K
TaqTth(D-B) A439R
TaqTth(N-D)
TaqTth(N-D) V463L
TaqTth(N-D) G499R
TaqTth(N-D) E507Q
TaqTth(N-D) Y535H
0
0.2
0.4
0.6
0.8
1
1.2
cycling rate, min-1

FIGURE 14

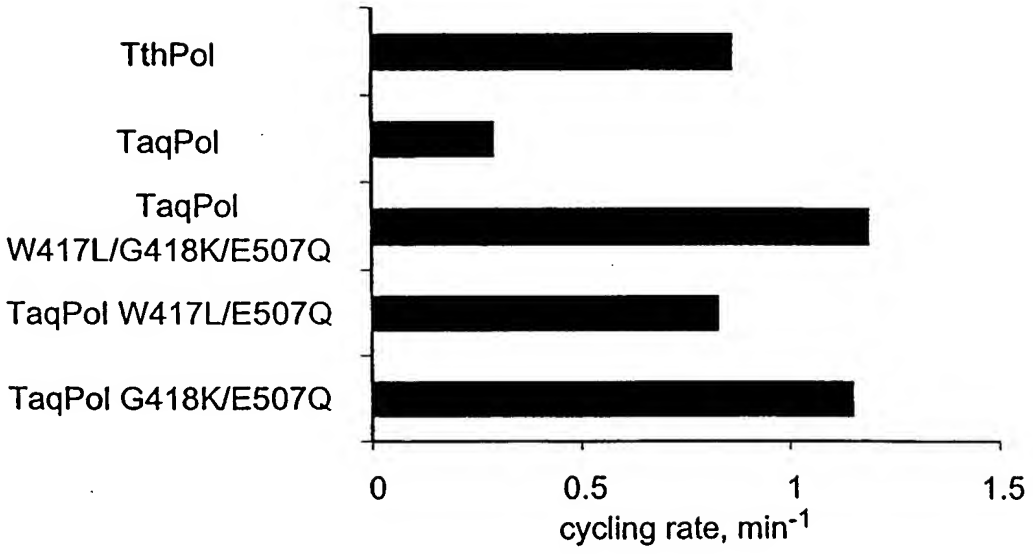
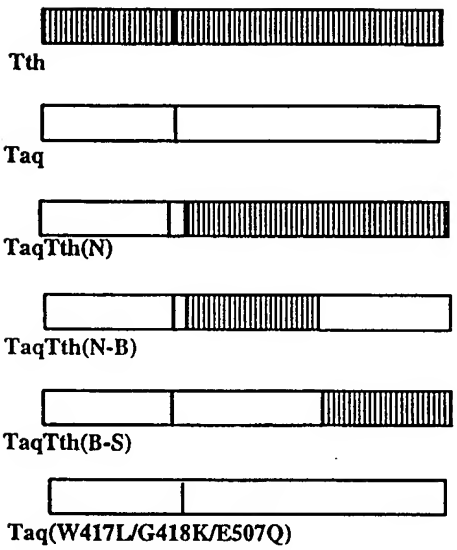

TthPol
TaqPol
TaqPol W417L/G418K/E507Q
TaqPol W417L/E507Q
TaqPol G418K/E507Q
0
0.5
1
1.5
cycling rate, min-1

FIGURE 15



	Polymerase Activity Assays % Fl-labeled dUTP incorporated RNA, p(A) or DNA, p(dA) Template	
Tth	5.8 (1.00)	14.8 (1.00)
Taq	0.8 (0.14)	15.0 (1.01)
TaqTth(N)	4.88 (0.84)	12.9 (0.87)
TaqTth(N-B)	0.58 (0.10)	13.3 (0.90)
TaqTth(B-S)	6.60 (1.14)	14.9 (1.01)
Taq(W417L/G418K/E507Q)	0.42 (0.07)	12.6 (0.85)

FIGURE 16

FIGURE 17

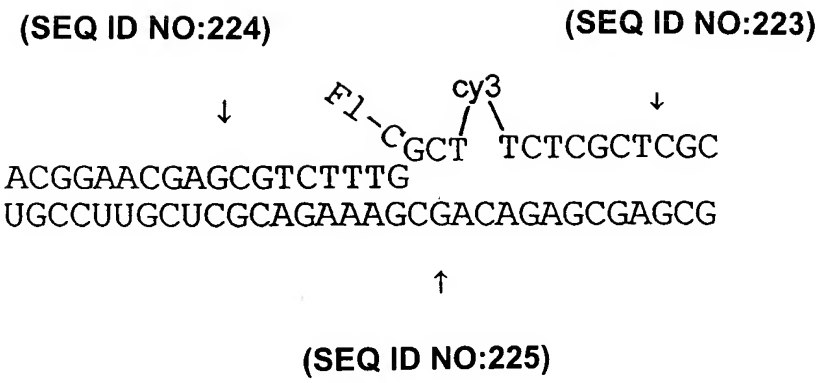

(SEQ ID NO:224)
(SEQ ID NO:223)
cy3
Fl-C
GCT
TCTCGCTCGC
ACGGAACGAGCGTCTTTG
UGCCUUGCUCGCAGAAAGCGACAGAGCGAGCG
(SEQ ID NO:225)

FIGURE 18A

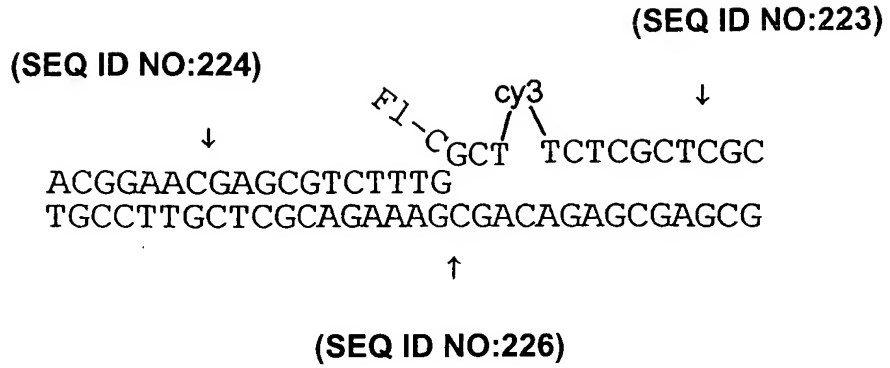

(SEQ ID NO:223)
(SEQ ID NO:224)
cy3
Fl-C
GCT
TCTCGCTCGC
ACGGAACGAGCGTCTTTG
TGCCTTGCTCGCAGAAAGCGACAGAGCGAGCG
(SEQ ID NO:226)

FIGURE 18B

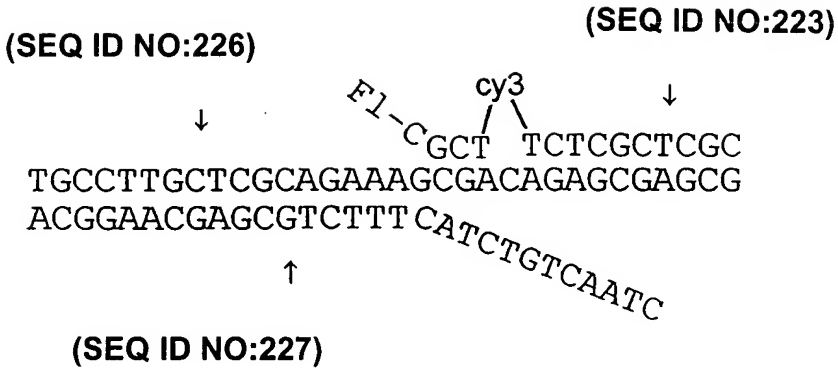
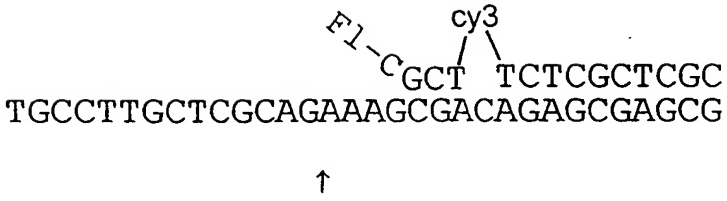

(SEQ ID NO:223)
(SEQ ID NO:226)
cy3
Fl-CGCT TCTCGCTCGC
TGCCTTGCTCGCAGAAAGCGACAGAGCGAGCG
ACGGAACGAGCGTCTTTCATCTGTCAATC
(SEQ ID NO:227)

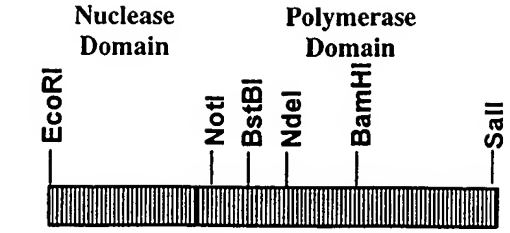
FIGURE 18C

(SEQ ID NO:223)

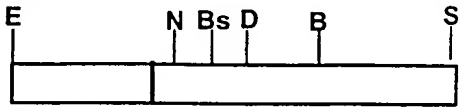


(SEQ ID NO:226)

FIGURE 18D

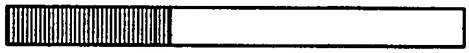


TthPol



TaqPol

TaqTth(N)

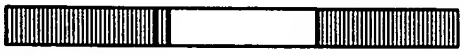


TthTaq(N)

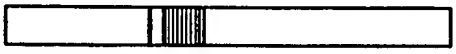
TaqTth(B-S)

TthTaq(B-S)

TaqTth(N-B)



TthTaq(N-B)



TaqTth(N-Bs)

TaqTth(Bs-B)

TaqTth(N-D)

TaqTth(D-B)

	Turnover Rate (1/min) (Relative Rate)		
	IL-6 RNA Invader Assay	Synthetic r25mer Invader Assay	Synthetic IrT1 Invader Assay
TthPol	0.86 (1.00)	0.29 (1.00)	1.85 (1.00)
TaqPol	0.29 (0.32)	0.03 (0.10)	0.05 (0.03)
TaqTth(N)	0.86 (1.00)	0.45 (1.56)	3.36 (1.81)
TthTaq(N)	0.33 (0.38)	0.03 (0.10)	0.00 (0.00)
TaqTth(B-S)	0.57 (0.67)	0.07 (0.23)	0.15 (0.08)
TthTaq(B-S)	0.70 (0.79)	0.30 (1.05)	1.70 (0.92)
TaqTth(N-B)	1.41 (1.59)	0.40 (1.38)	3.22 (1.74)
TthTaq(N-B)	0.22 (0.25)	0.05 (0.18)	0.05 (0.03)
TaqTth(N-Bs)	0.22 (0.25)	0.10 (0.11)	0.06 (0.03)
TaqTth(Bs-B)	0.89 (1.04)	0.18 (0.63)	0.71 (0.38)
TaqTth(N-D)	0.33 (0.38)	0.08 (0.29)	0.18 (0.10)
TaqTth(D-B)	0.32 (0.42)	0.16 (0.54)	0.16 (0.09)

FIGURE 19

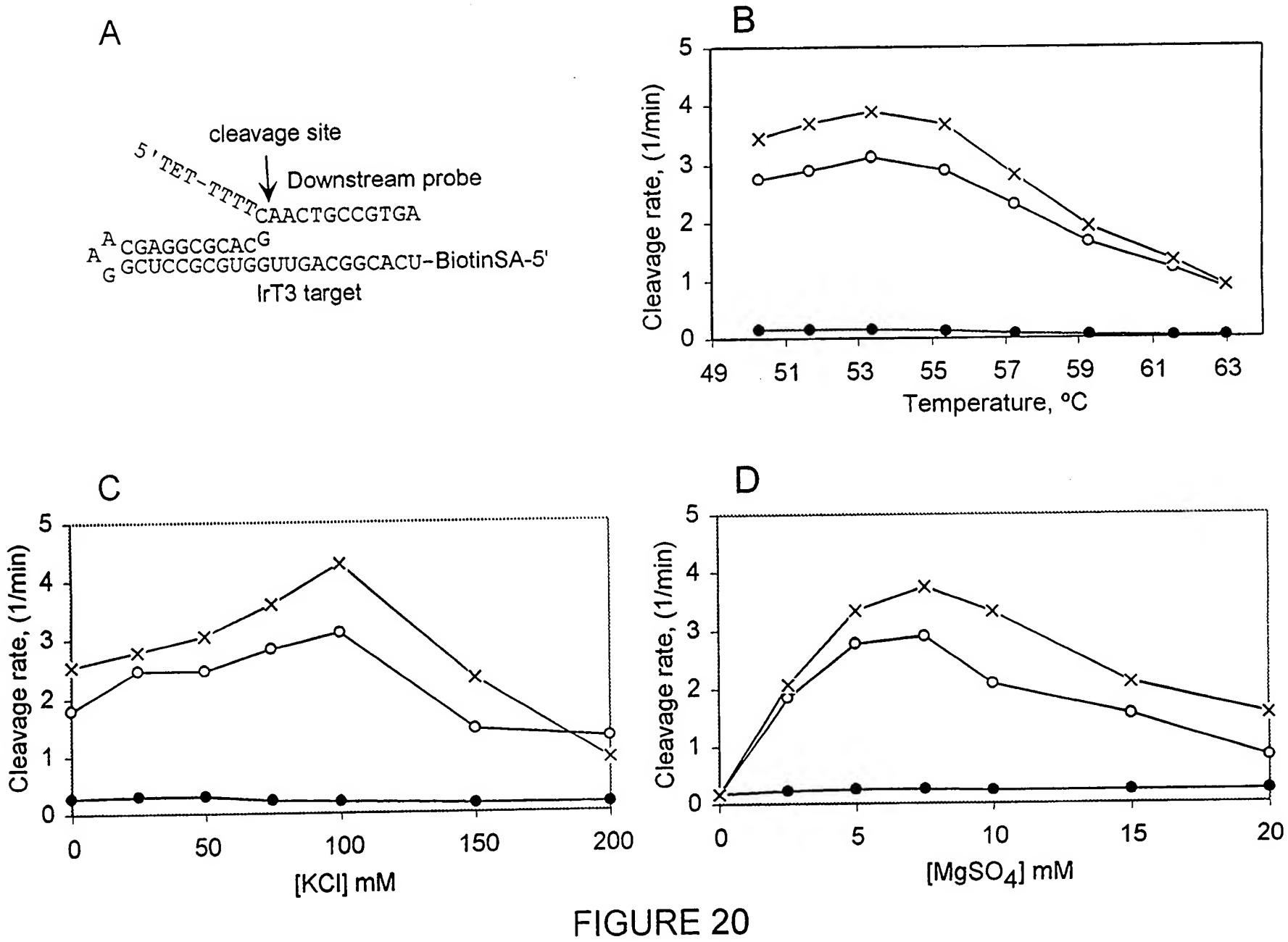
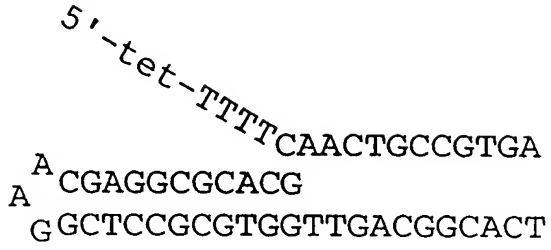

A
cleavage site
5'TET-TTTTCAACTGCCGTGA
Downstream probe
A CGAGGCGCAC G
A G GCUCCGCGUGGUUGACGGCACU-BiotinSA-5'
lrT3 target
B
Cleavage rate, (1/min)
Temperature, °C
C
Cleavage rate, (1/min)
[KCl] mM
D
Cleavage rate, (1/min)
[MgSO4] mM

FIGURE 20

FIGURE 21

A


5'-tet-TTTTCAACTGCCGTGA
ACGAGGCGCACG
GGCTCCGCGTGGTTGACGGCACT

B

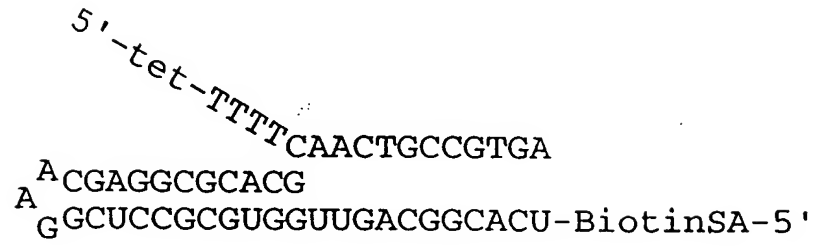

5'-tet-TTTTCAACTGCCGTGA
ACGAGGCGCACG
GGCUCCGCGUGGUUGACGGCACU-BiotinSA-5'

FIGURE 22

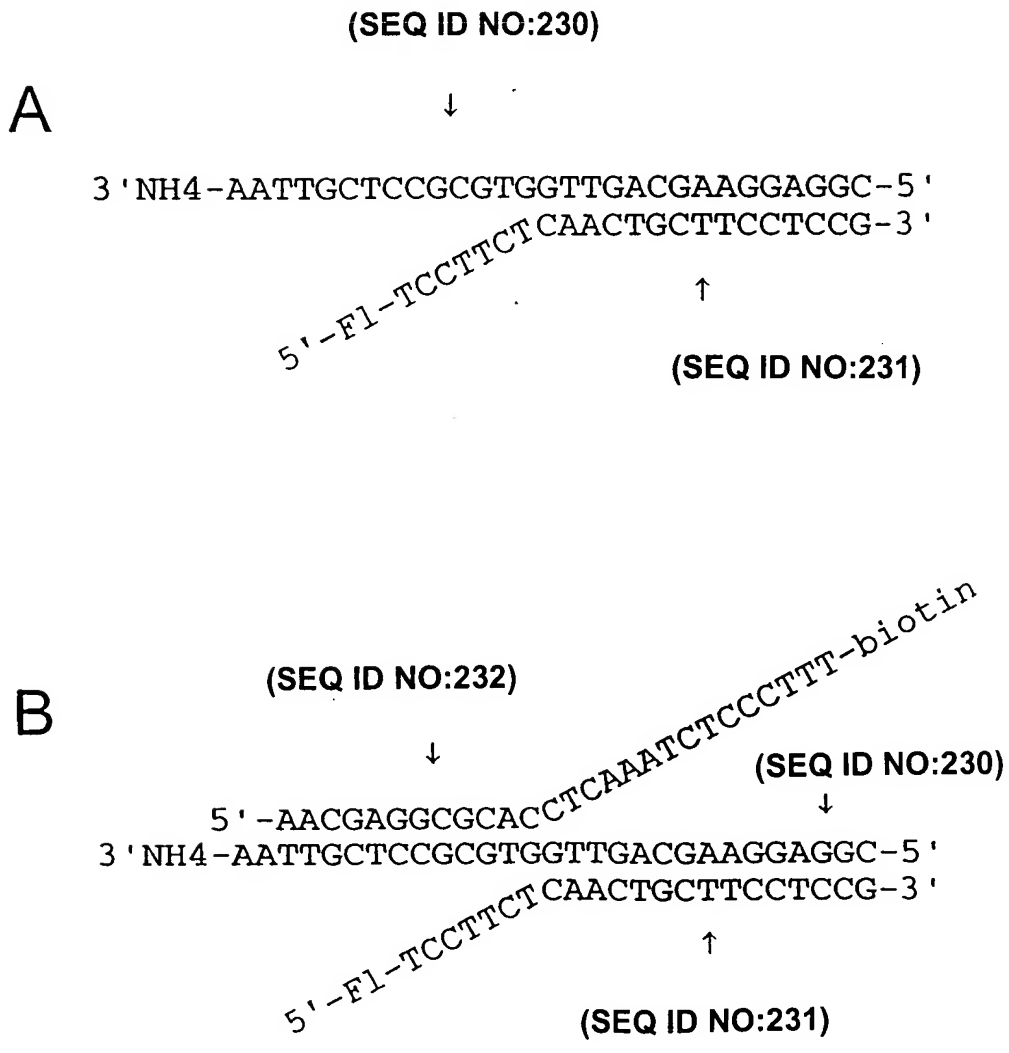

(SEQ ID NO:230)
A
3'NH4-AATTGCTCCGCGTGGTTGACGAAGGAGGC-5'
5'-Fl-TCCTTCT CAACTGCTTCCTCCG-3'
(SEQ ID NO:231)
B
(SEQ ID NO:232)
5'-AACGAGGCGCACCTCAAATCTCCCTTT-biotin
(SEQ ID NO:230)
3'NH4-AATTGCTCCGCGTGGTTGACGAAGGAGGC-5'
5'-Fl-TCCTTCT CAACTGCTTCCTCCG-3'
(SEQ ID NO:231)

FIGURE 23

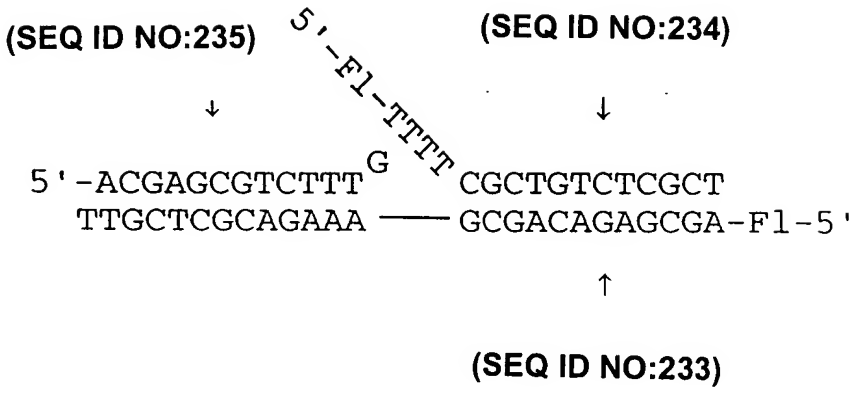
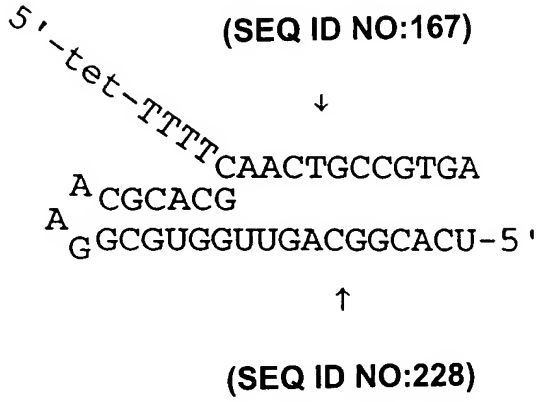

(SEQ ID NO:235)
5'-F1-TTT
(SEQ ID NO:234)
5'-ACGAGCGTCTTT
G
CGCTGTCTCGCT
TTGCTCGCAGAAA
GCGACAGAGCGA-F1-5'
(SEQ ID NO:233)

FIGURE 24

A


(SEQ ID NO:167)
5'-tet-TTTTCAACTGCCGTGA
ACGCACG
AGGCGTGGTTGACGGCACT-5'
(SEQ ID NO:228)

B

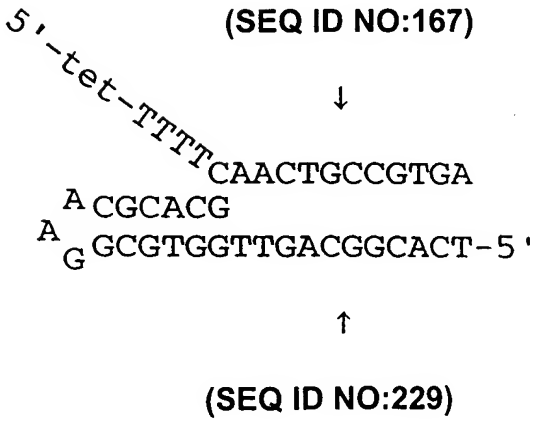

(SEQ ID NO:167)
5'-tet-TTTTCAACTGCCGTGA
ACGCACG
AGGCGTGGTTGACGGCACT-5'
(SEQ ID NO:229)

FIGURE 25

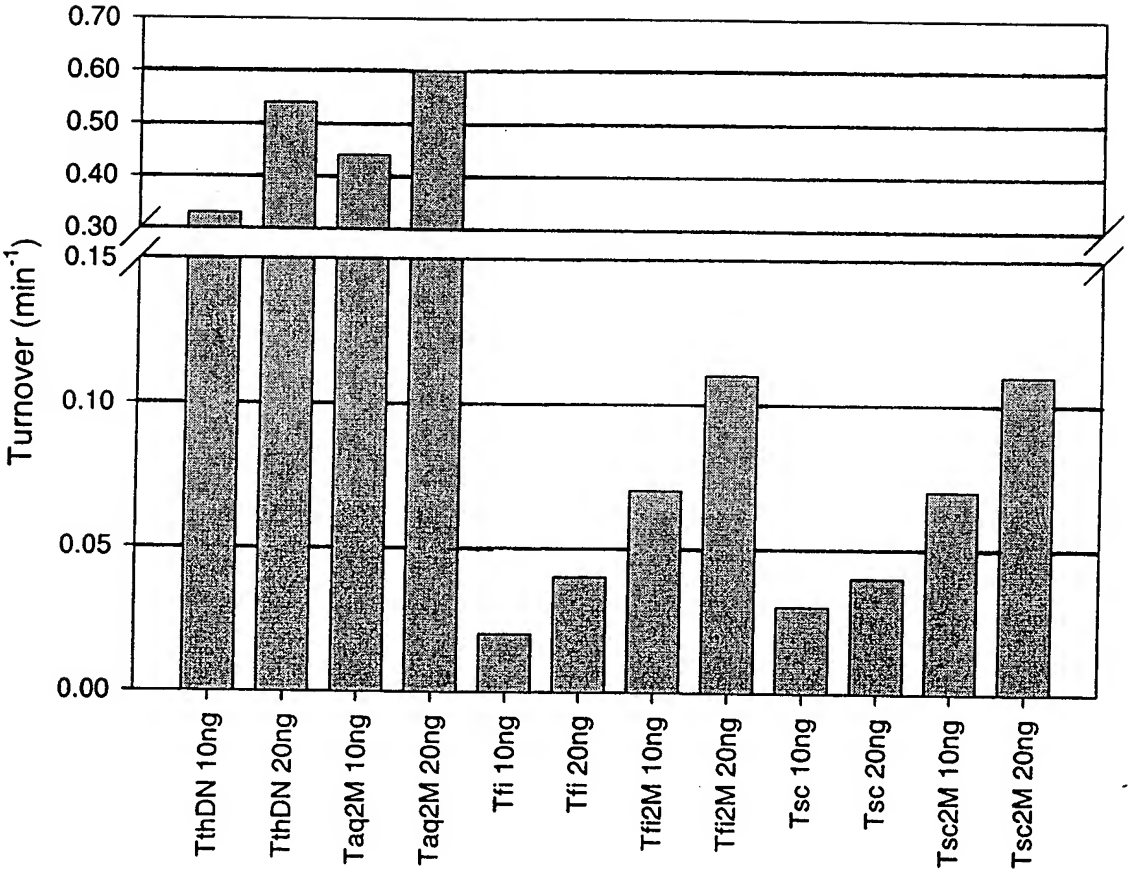

0.70
0.60
0.50
0.40
0.30
0.15
0.10
0.05
0.00
Turnover (min-1)
TthDN 10ng
TthDN 20ng
Taq2M 10ng
Taq2M 20ng
Tfi 10ng
Tfi 20ng
Tfi2M 10ng
Tfi2M 20ng
Tsc 10ng
Tsc 20ng
Tsc2M 10ng
Tsc2M 20ng

FIGURE 26

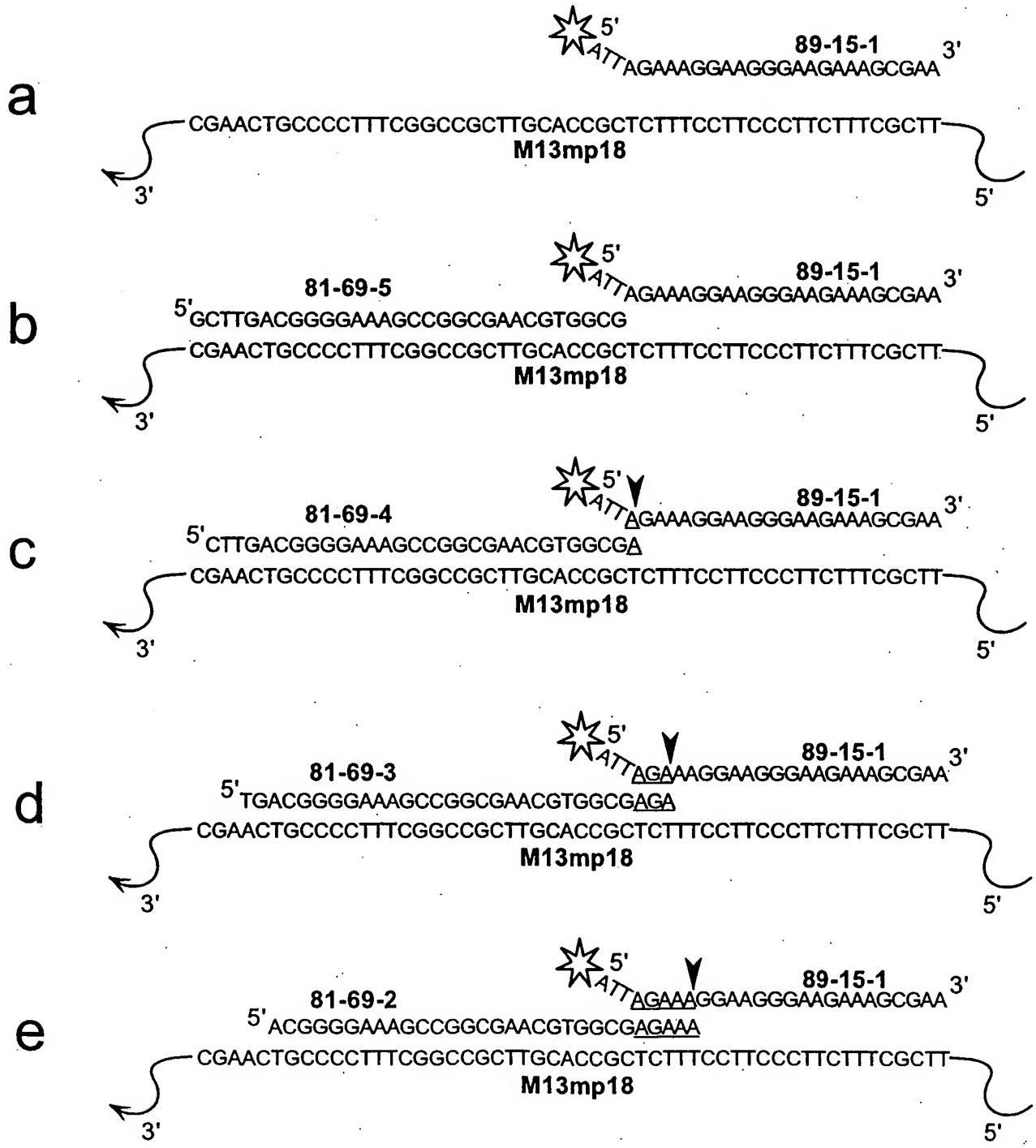

a
5'
ATTAGAAAGGAAGGGAAGAAAGCGAA
89-15-1
3'
CGAACTGCCCCTTTCGGCCGCTTGCACCGCTCTTTCCTTCCCTTCTTTCGCTT
M13mp18
3'
5'
b
81-69-5
5'GCTTGACGGGGAAAGCCGGCGAACGTGGCG
5'
ATTAGAAAGGAAGGGAAGAAAGCGAA
89-15-1
3'
CGAACTGCCCCTTTCGGCCGCTTGCACCGCTCTTTCCTTCCCTTCTTTCGCTT
M13mp18
3'
5'
c
81-69-4
5'CTTGACGGGGAAAGCCGGCGAACGTGGCGA
5'
ATTAGAAAGGAAGGGAAGAAAGCGAA
89-15-1
3'
CGAACTGCCCCTTTCGGCCGCTTGCACCGCTCTTTCCTTCCCTTCTTTCGCTT
M13mp18
3'
5'
d
81-69-3
5'TGACGGGGAAAGCCGGCGAACGTGGCGAGA
5'
ATTAGAAAGGAAGGGAAGAAAGCGAA
89-15-1
3'
CGAACTGCCCCTTTCGGCCGCTTGCACCGCTCTTTCCTTCCCTTCTTTCGCTT
M13mp18
3'
5'
e
81-69-2
5'ACGGGGAAAGCCGGCGAACGTGGCGAGAAA
5'
ATTAGAAAGGAAGGGAAGAAAGCGAA
89-15-1
3'
CGAACTGCCCCTTTCGGCCGCTTGCACCGCTCTTTCCTTCCCTTCTTTCGCTT
M13mp18
3'
5'

FIGURE 27

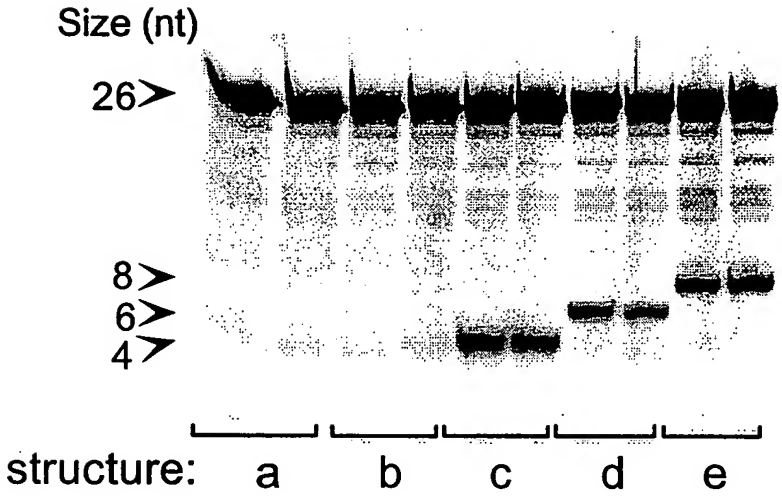
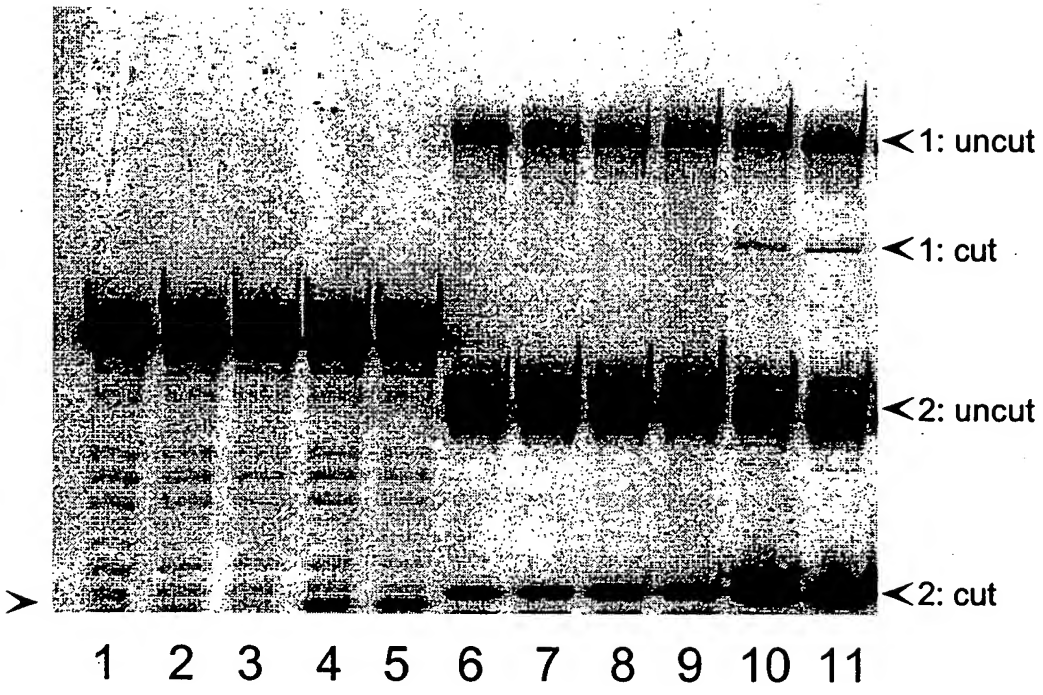
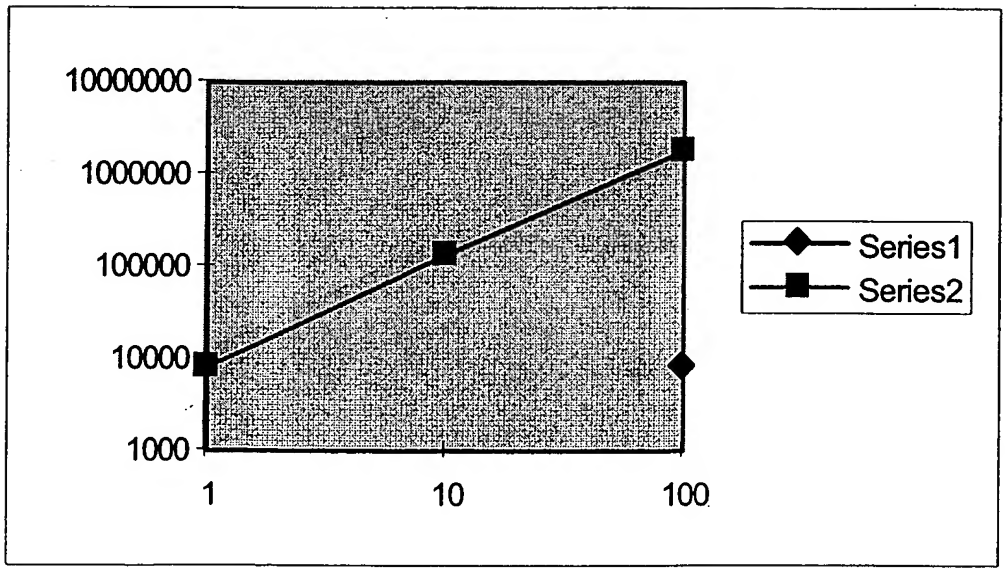


FIGURE 28

a



b



attomoles/target	basic invader	invader sqrd
1		8386
10		133185
100	8512	1862211

FIGURE 29

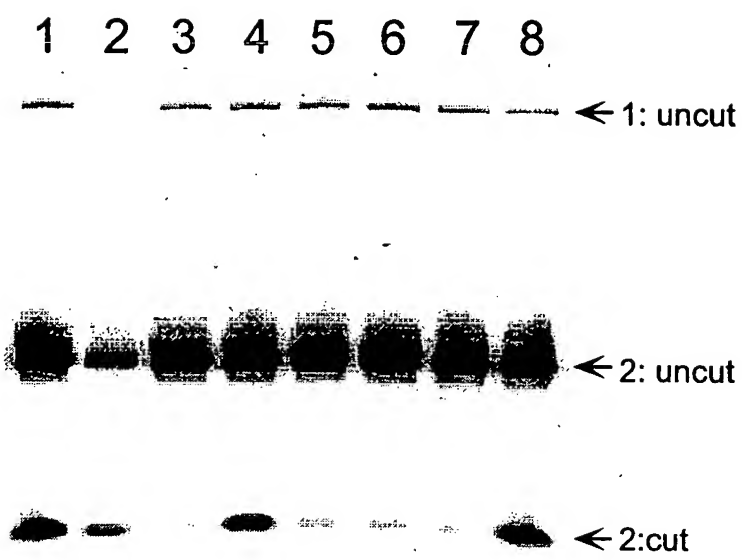


FIGURE 30

Cleavage
site
5' Fl-TTT
89-76
CCCTCCTCCTCTTCC-3'
89-44
5' ACACAGTGTCCTCCCGCTCCTCCTGAGCA A
3'-ACTGTCTGTGTCACAGGAGGGCGAGGAGGACTCGTGGGAGGAGGAGAAGGAGTA-5'
3110
HCMV Target Sequence
3057

FIGURE 31

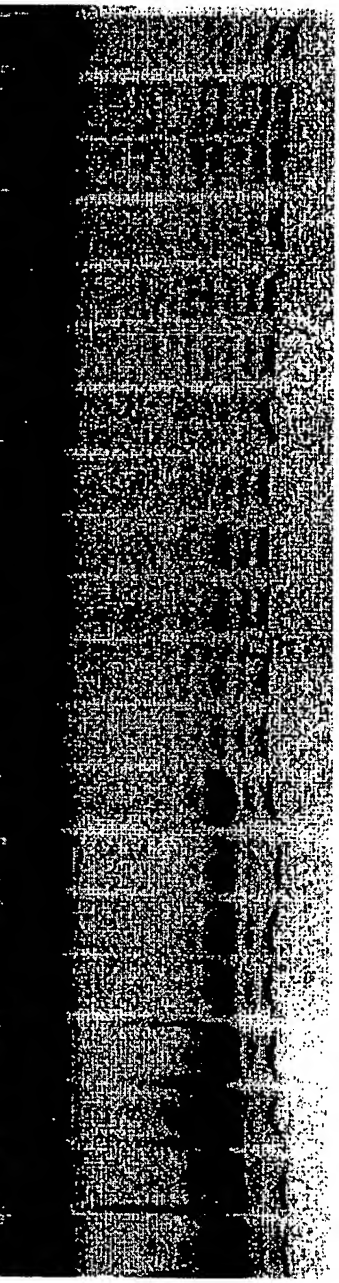

170 amol
17 amol
1.7 amol
0.17 amol
no target
UNCUT 89–76
CUT 89–76

FIGURE 32

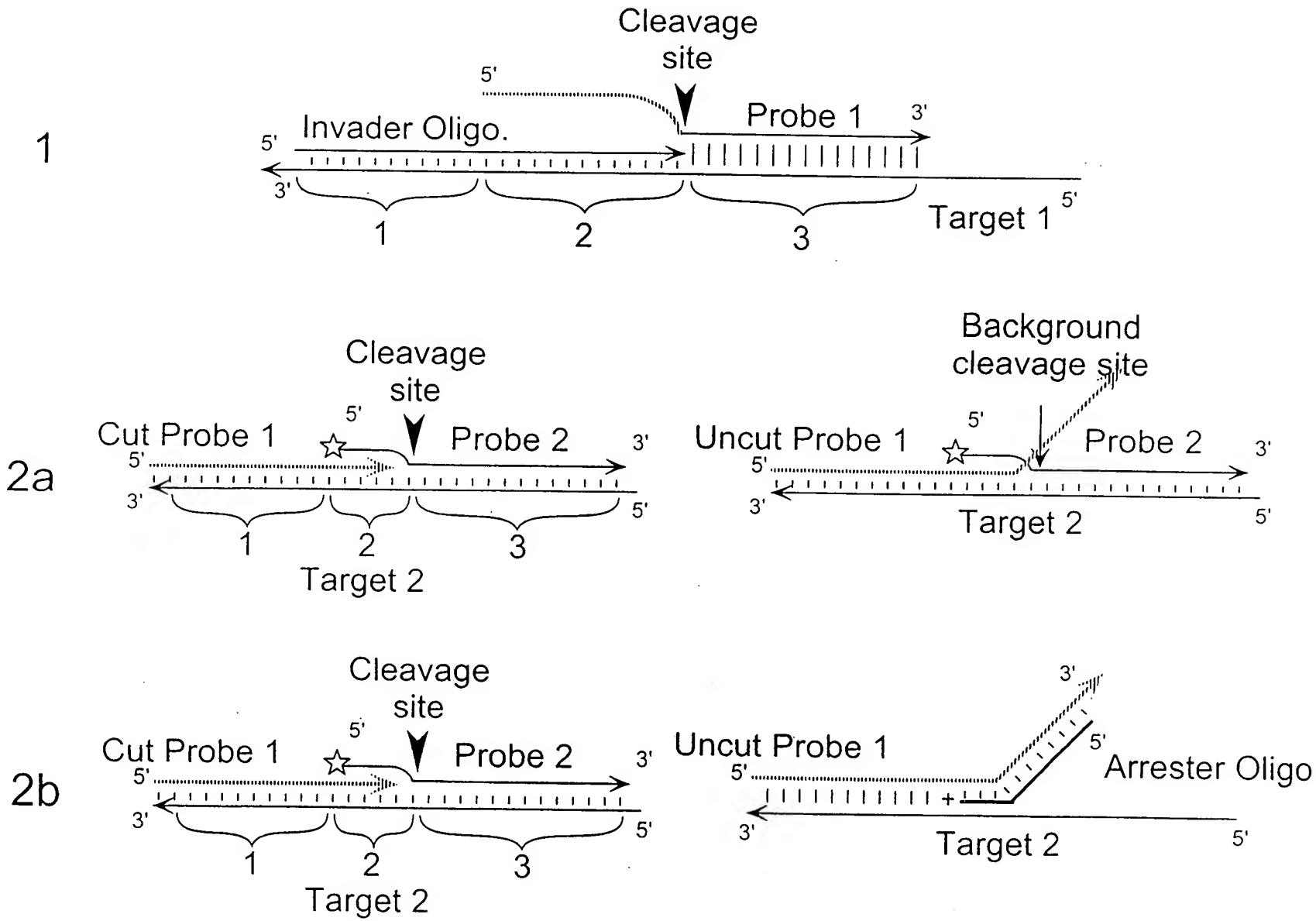

1
Cleavage site
5'
Invader Oligo.
Probe 1
3'
5'
3'
1
2
3
Target 1
5'
2a
Cleavage site
Cut Probe 1
5'
Probe 2
3'
5'
3'
1
2
3
Target 2
Background cleavage site
Uncut Probe 1
5'
Probe 2
3'
5'
3'
Target 2
5'
2b
Cleavage site
Cut Probe 1
5'
Probe 2
3'
5'
3'
1
2
3
Target 2
3'
Uncut Probe 1
5'
5'
Arrester Oligo
3'
Target 2
5'

FIGURE 33

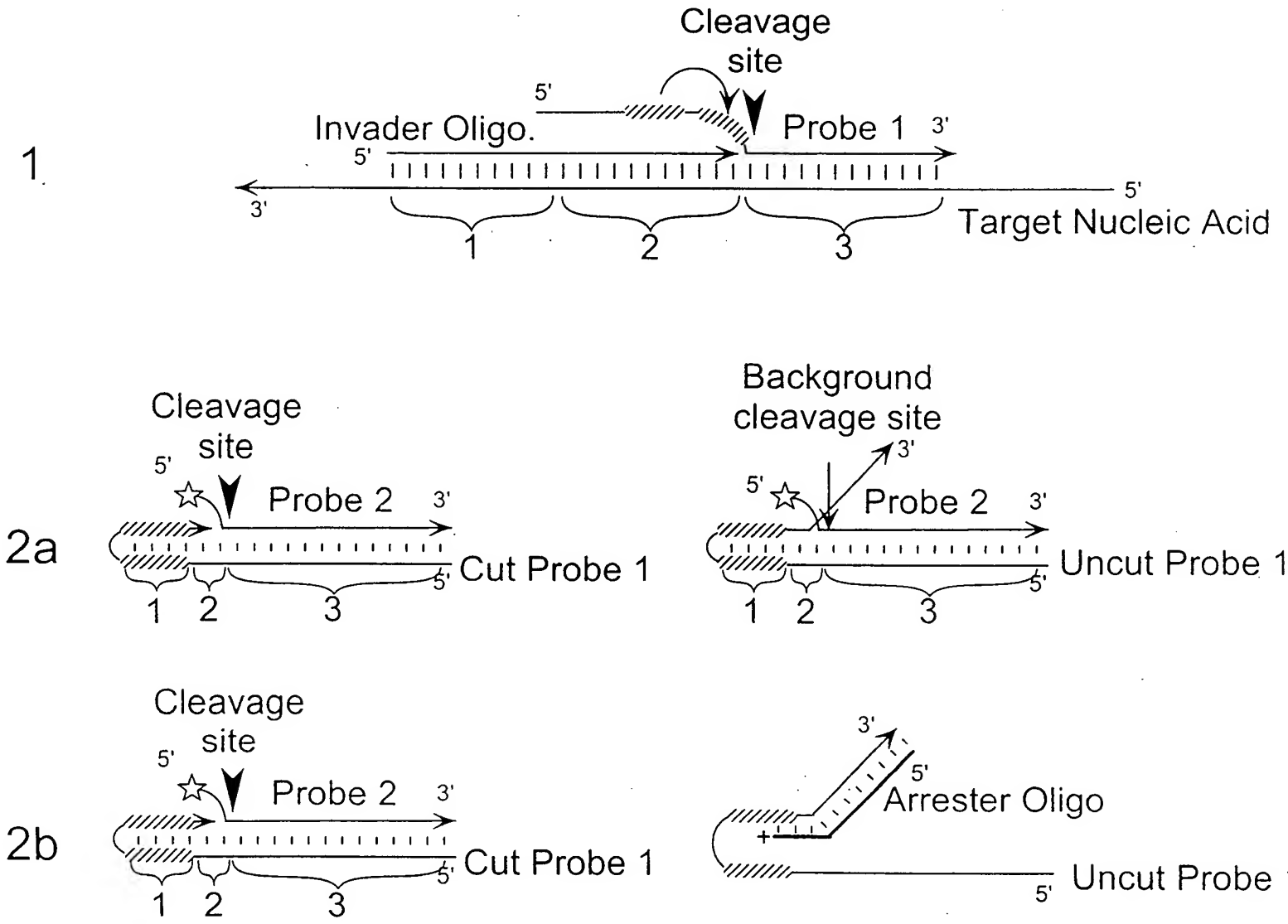

1
Cleavage site
5'
Invader Oligo.
Probe 1
3'
5'
5'
3'
Target Nucleic Acid
1
2
3
2a
Cleavage site
5'
Probe 2
3'
Cut Probe 1
5'
1
2
3
Background cleavage site
3'
5'
Probe 2
3'
Uncut Probe 1
5'
1
2
3
2b
Cleavage site
5'
Probe 2
3'
Cut Probe 1
5'
1
2
3
3'
5'
Arrester Oligo
Uncut Probe 1
5'

FIGURE 34

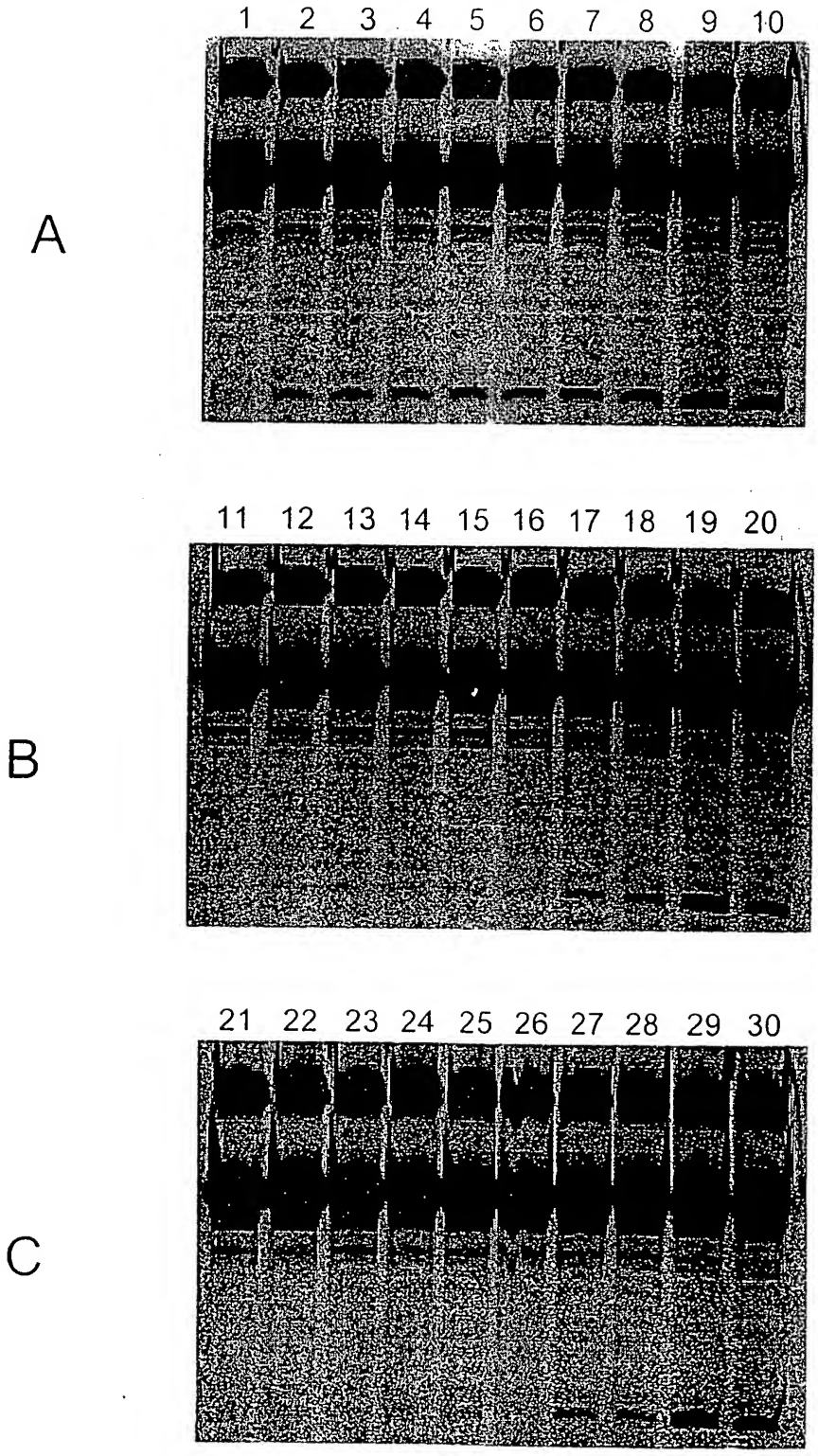

1 2 3 4 5 6 7 8 9 10
A
11 12 13 14 15 16 17 18 19 20
B
21 22 23 24 25 26 27 28 29 30
C

FIGURE 35A

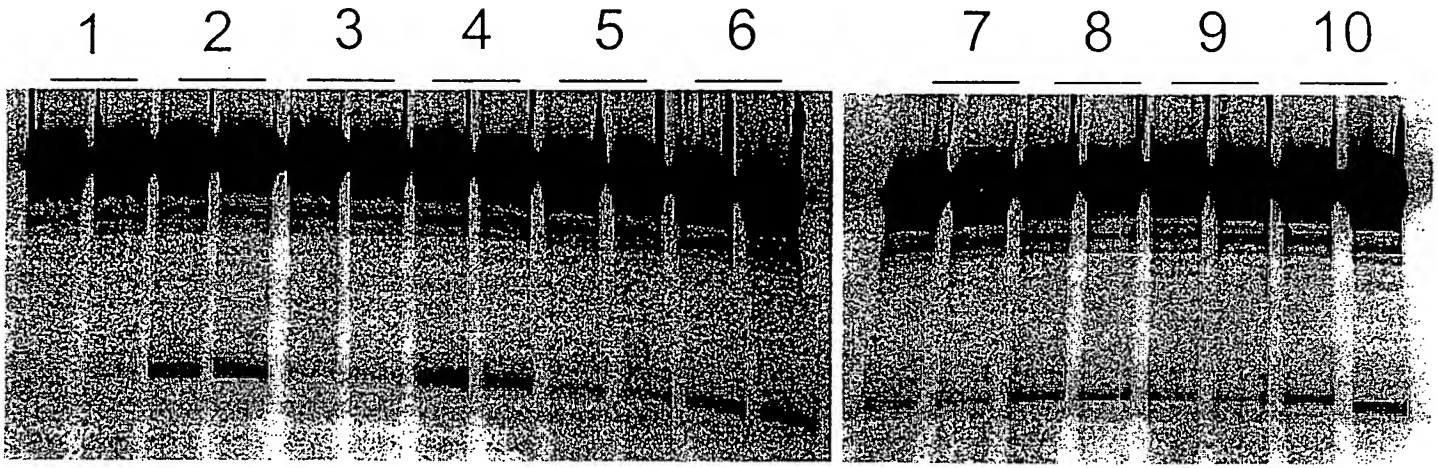


FIGURE 35B

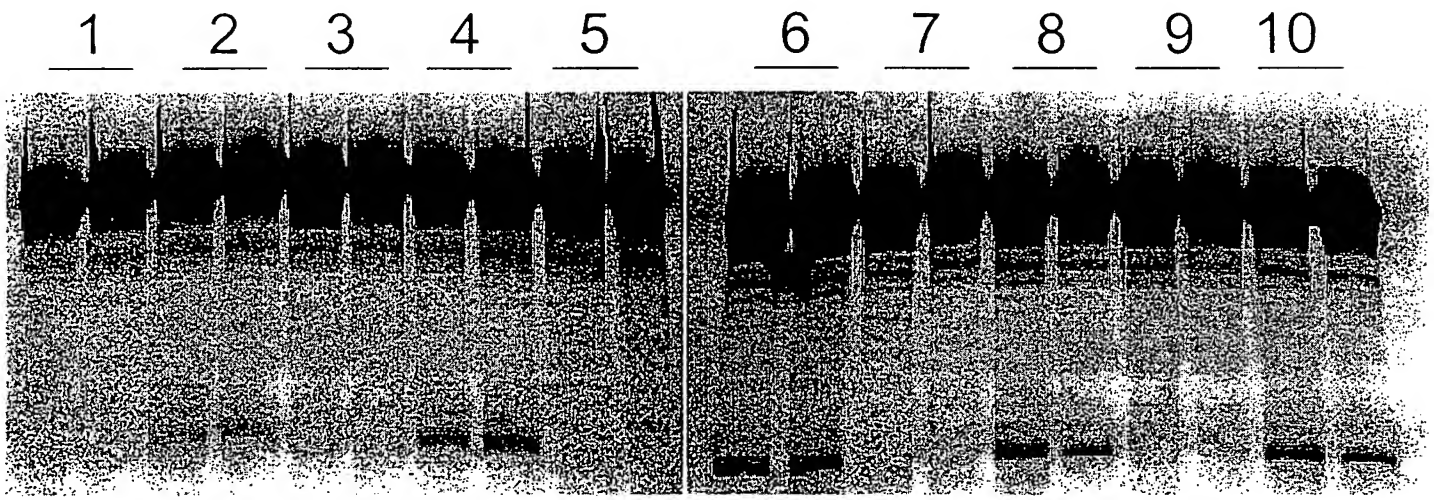


FIGURE 35C

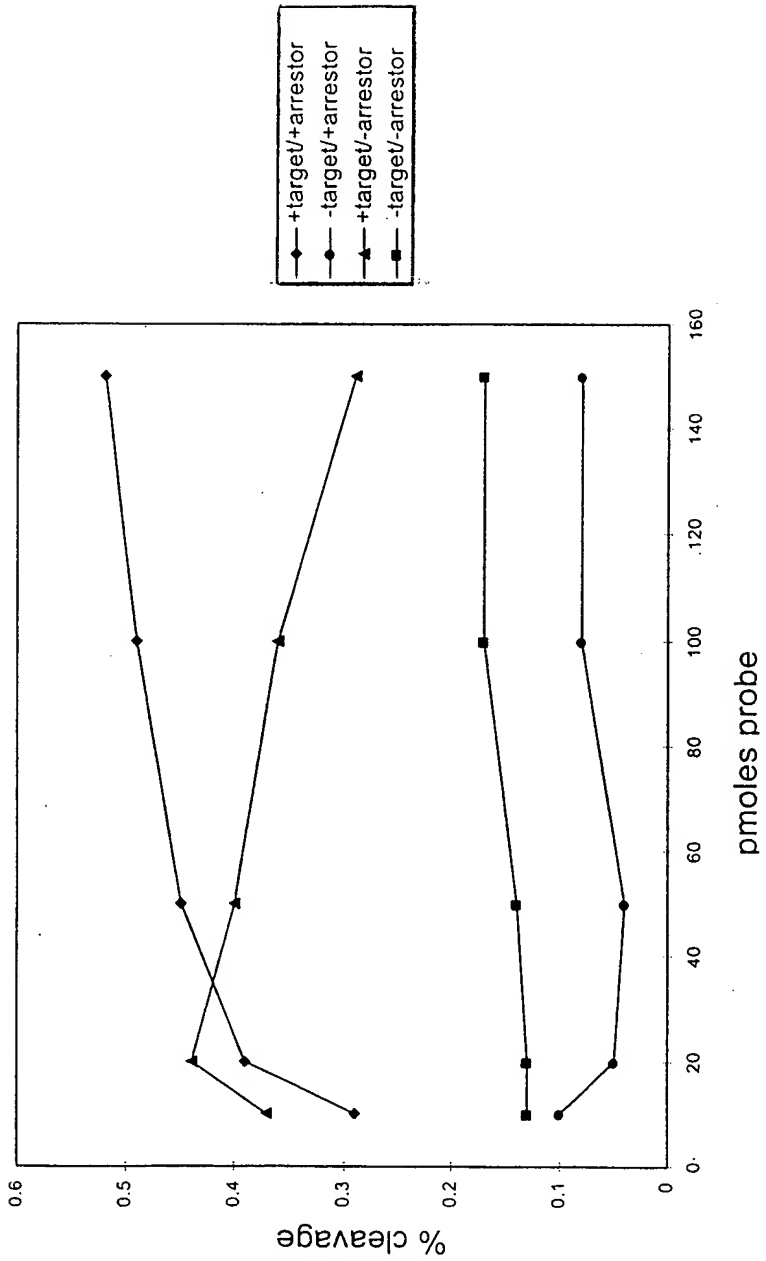

+target/+arrestor
-target/+arrestor
+target/-arrestor
-target/-arrestor
% cleavage
pmoles probe
0
0.1
0.2
0.3
0.4
0.5
0.6
0
20
40
60
80
100
120
140
160

FIGURE 36A

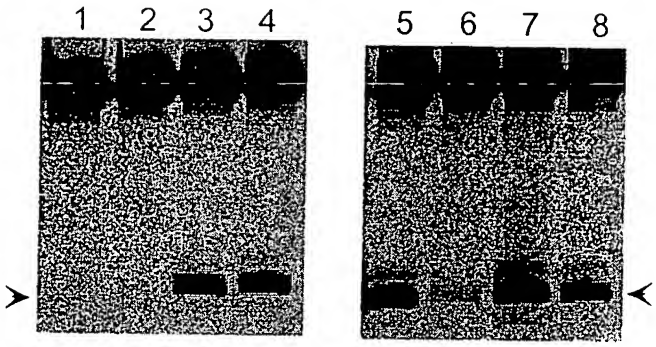


FIGURE 36B

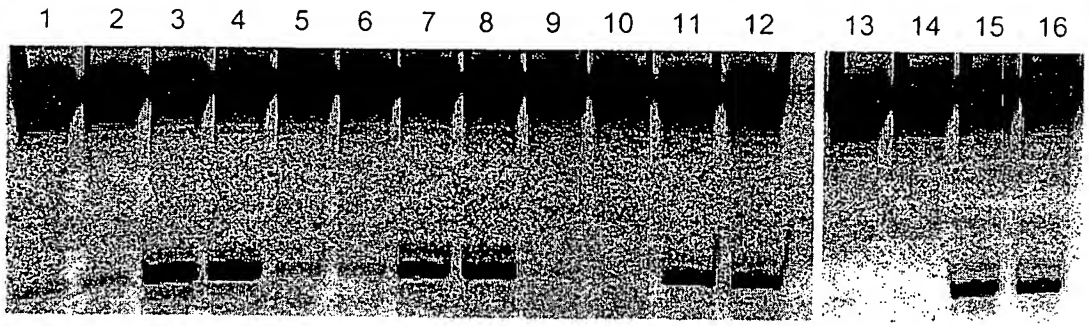


FIGURE 37A

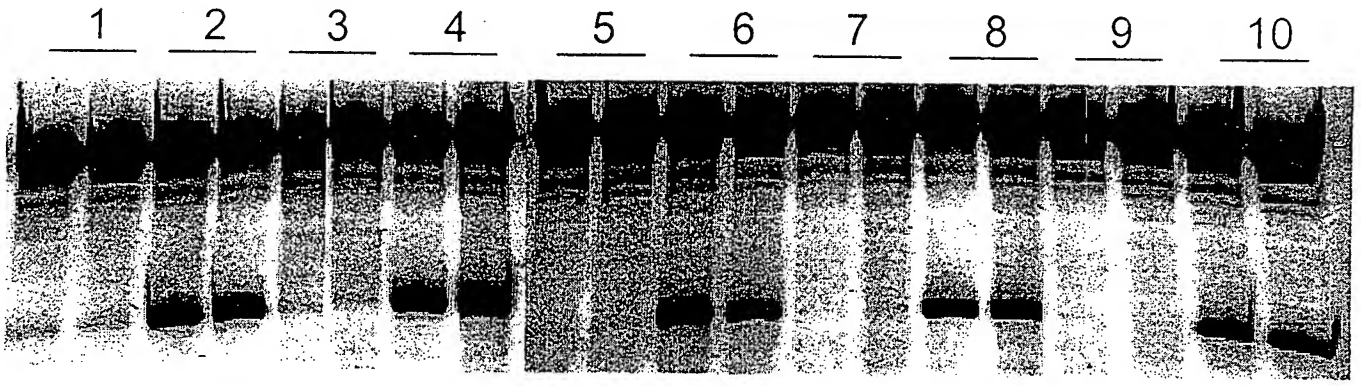


FIGURE 37B

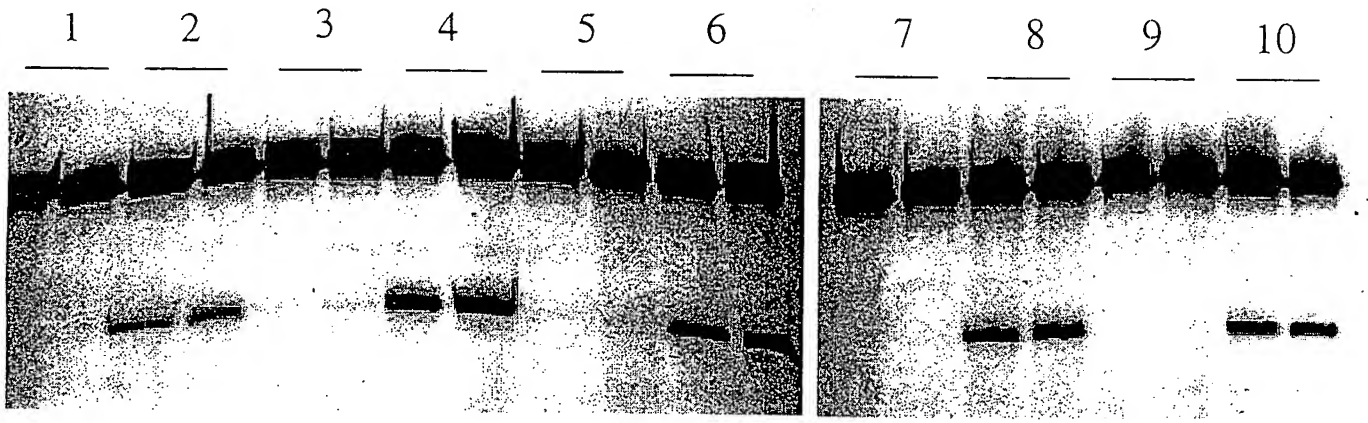


FIGURE 37C

Primary Probe 241-95-02
5' AACGAGGCGCACCCACCCAAGGCACAGC-NH3+ 3'
Arrestors
3' NH3+GGGTGGGTTCCGTGTCG 5' 241-95-03
3' NH3+TGGGGTGGGTTCCGTGTCG 5' 241-95-04
3' NH3+TGCGGGGTGGGTTCCGTGTCG 5' 241-95-05
3' NH3+TGCGCGGGTGGGTTCCGTGTCG 5' 241-95-06

FIGURE 38

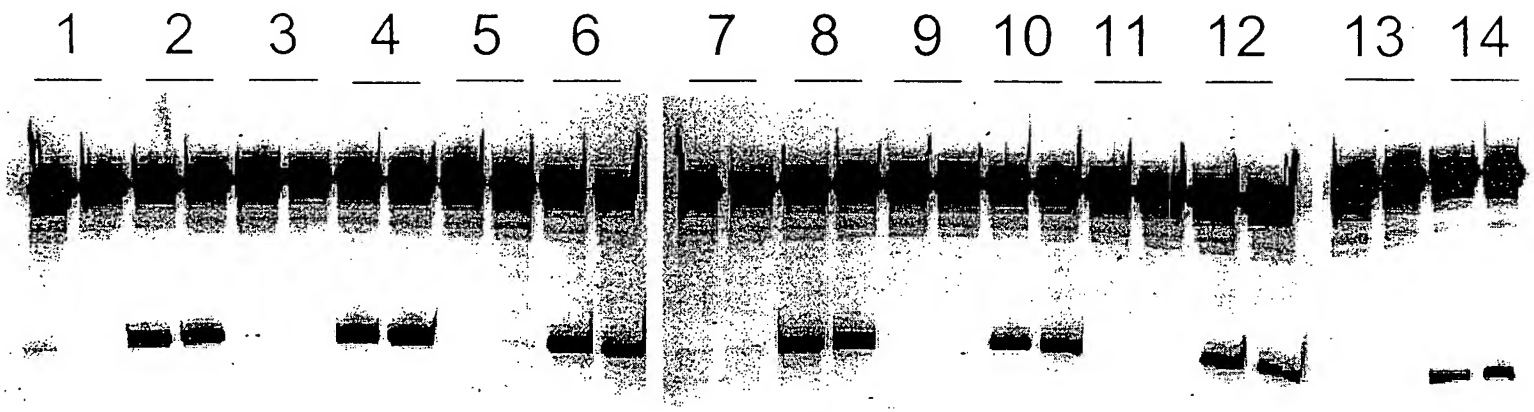


FIGURE 39

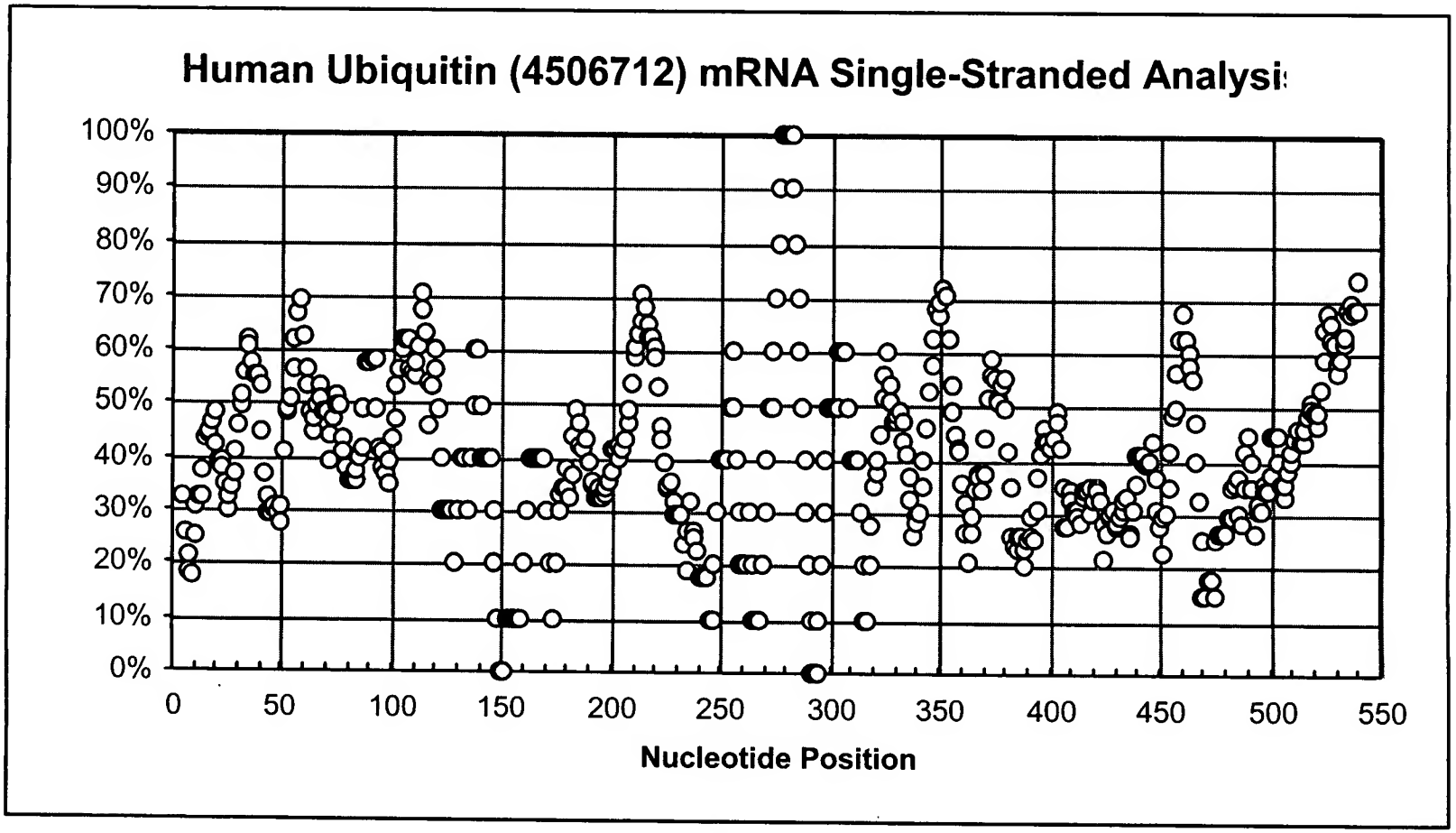

Human Ubiquitin (4506712) mRNA Single-Stranded Analysi
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0
50
100
150
200
250
300
350
400
450
500
550
Nucleotide Position

FIGURE 40

	1	2	3	4	5	6	7	8	9	10	11	12
A	Negative Control	No Target Control	Sample 1	Sample 1	Sample 9	Sample 9	Sample 17	Sample 17	Sample 25	Sample 25	Sample 33	Sample 33
B	No Target Control	No Target Control	Sample 2	Sample 2	Sample 10	Sample 10	Sample 18	Sample 18	Sample 26	Sample 26	Sample 34	Sample 34
C	Standard 1	Standard 1	Sample 3	Sample 3	Sample 11	Sample 11	Sample 19	Sample 19	Sample 27	Sample 27	Sample 35	Sample 35
D	Standard 2	Standard 2	Sample 4	Sample 4	Sample 12	Sample 12	Sample 20	Sample 20	Sample 28	Sample 28	Sample 36	Sample 36
E	Standard 3	Standard 3	Sample 5	Sample 5	Sample 13	Sample 13	Sample 21	Sample 21	Sample 29	Sample 29	Sample 37	Sample 37
F	Standard 4	Standard 4	Sample 6	Sample 6	Sample 14	Sample 14	Sample 22	Sample 22	Sample 30	Sample 30	Sample 38	Sample 38
G	Standard 5	Standard 5	Sample 7	Sample 7	Sample 15	Sample 15	Sample 23	Sample 23	Sample 31	Sample 31	Sample 39	Sample 39
H	Standard 6	Standard 6	Sample 8	Sample 8	Sample 16	Sample 16	Sample 24	Sample 24	Sample 32	Sample 32	Sample 40	Sample 40

FIGURE 41A

hUbiquitin

Primary probe	5' –CGC CGA GAT CAC CTT TAC ATT TTC TAT CGT NH2-3'	(SEQ ID NO:169)
INVADER oligonucleotide	5' –CCT TCC TTA TCC TGG ATC TTG GCA -3'	(SEQ ID NO:170)
ARRESTOR oligonucleotide	**5'-ACG ATA GAA AAT GTA AAG GTG ATC-3'**	(SEQ ID NO:171)
FRET Probe	5'-RED-CTC (Z28) TTC TCA GTG CG-3'	(SEQ ID NO:172)
Secondary target	5'-CGC AGT GAG AAT GAG GTG ATC TCG GC**G GT**-3'	(SEQ ID NO:173)

m/r Ubiquitin, mouse (288C, 516C, 744C, 972C), rat (247C, 475C, 703C, 931C)

Primary probe	5'-CCG CCG AGA TCA CGG ATG TTG TAA TCA GAG A-NH2-3'	(SEQ ID NO:174)
INVADER oligonucleotide 1	5'-GTG CAG GGT TGA CTC CTT CTC-3'	(SEQ ID NO:175)
INVADER oligonucleotide 2	5'-GTG CAG GGT TGA CTC TTT CTC-3'	(SEQ ID NO:176)
INVADER oligonucleotide 3	5'-GTG CAG GGT CGA CTC TTT CTC-3'	(SEQ ID NO:177)
ARRESTOR oligonucleotide	**5'-TCT CTG ATT ACA ACA TCC GTG ATC T-3'**	(SEQ ID NO:178)
FRET Probe	5'-RED-CTC (Z28) TTC TCA GTG CG-3'	(SEQ ID NO:172)
Secondary target	5'-CGC AGT GAG AAT GAG GTG ATC TCG GC**G GT**-3'	(SEQ ID NO:173)

r/m GAPDH, rat (150C), mouse(166C)

Primary probe	5'-CGC CGA GAT CAC GTA GTT GAG GTC AAT GA-NH2-3'	(SEQ ID NO:179)
INVADER oligonucleotide	**5'-GAA TCA TAC T**GG AAC ATG TAG ACC ATC-**3'**	(SEQ ID NO:180)
ARRESTOR oligonucleotide	**5'-TCA TTG ACC TCA ACT ACG TGA TCT-3'**	(SEQ ID NO:181)
FRET Probe	5'-RED-CTC (Z28) TTC TCA GTG CG-3'	(SEQ ID NO:172)
Secondary target	5'-CGC AGT GAG AAT GAG GTG ATC TCG GC**G GT**-3'	(SEQ ID NO:173)

hGAPDH, 516C

Primary probe	5'-CCG CCG AGA TCA CGA TGA TCT TGA GGC T-NH2-3'	(SEQ ID NO:182)
INVADER oligonucleotide	5'-TGG TGC AGG AGG CAT TGC TC-3'	(SEQ ID NO:183)
ARRESTOR oligonucleotide	**5'-CAG CCT CAA GAT TAC CGT GAT CT-3'**	(SEQ ID NO:184)
FRET Probe	5'-RED-CTC (Z28) TTC TCA GTG CG-3'	(SEQ ID NO:172)
Secondary target	5'-CGC AGT GAG AAT GAG GTG ATC TCG GC**G GT**-3'	(SEQ ID NO:173)

FIGURE 41B

hTGF-β

Primary probe	5'- CCG TCA CGC CTC CTC CAC GGC TC -3'	(SEQ ID NO:185)
INVADER oligonucleotide	5'- AGG CGA AAG CCC TCA ATT TCC CA-3'	(SEQ ID NO:186)
Stacker	5'-**AAC CAC TGC CGC ACA**-3'	(SEQ ID NO:187)
ARRESTOR oligonucleotide	5'-**GAG CCG TGG AGG AGG CG**-3'	(SEQ ID NO:188)
FRET Probe	5'-FL-CAC-(Z28)-TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

hMCP-1

Primary probe	5'–CCG TCA CGC CTC CTT CGG AGT TTG GG NH2 -3''	(SEQ ID NO:191)
INVADER oligonucleotide	5' –GGG TTG TGG AGT GAG TGT TCA AGT A -3'	(SEQ ID NO:192)
Stacker	NO STACKER	
ARRESTOR oligonucleotide	5'-**GGG-AAA-CTC-CGA-AGG- AGG-CG**-3'	(SEQ ID NO:193)
FRET Probe	5'-FL-CAC-Z28-TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

hTNF-α

Primary probe	5'–CCG TCA CGC CTC TCT GAC TGC CA NH2-3'	(SEQ ID NO:194)
INVADER oligonucleotide	5' –TTG TCA CTC GGG GTT CGA GAA GAT GAA-3'	(SEQ ID NO:195)
Stacker	5'-**GGG CCA GAG GG**-3'	(SEQ ID NO:196)
ARRESTOR oligonucleotide	5'-**AGG CAG TCA GAG AGG CG**-3'	(SEQ ID NO:197)
FRET Probe	5'-FL-CAC-Z28-TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

hIL-6

Primary probe	5' –CCG TCA CGC CTC CTC CTC ATT GAA TTNH2-3'	(SEQ ID NO:198)
INVADER oligonucleotide	5' –CCA AAA GTC CAG TGA TGA TTT TCA CCA GGC AAG TA -3'	(SEQ ID NO:199)
Stacker	5'-**CAG ATT GGA AGC ATC CAT CT**-3'	(SEQ ID NO:200)
ARRESTOR oligonucleotide	5'-**GAT TCA ATG AGG AGG AGG C**-3'	(SEQ ID NO:201)
FRET Probe	5'-FL-CAC-(Z28)-TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

FIGURE 41C

hIL-1β

Primary probe	5' –CCG TCA CGC CTC CAT CTG TTT AGG NH2-3'	(SEQ ID NO:202)
INVADER oligonucleotide	5' –CAG GTC CTG GAA GGA GCA CTT A-3'	(SEQ ID NO:203)
Stacker	5'-**GCC ATC AGC TTC TTT GTT CTT GTC ATC**-3'	(SEQ ID NO:204)
ARRESTOR oligonucleotide	5'-**GCC CTA AAC AGA TGG AGG CG**-3'	(SEQ ID NO:205)
FRET Probe	5'-FL-CAC-(Z28)-TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

hIL-2

Primary probe	5'–CCG TCA CGC CTC CTC CAG TTG TAG NH2 -3'	(SEQ ID NO:206)
INVADER oligonucleotide	5'–**AAA ATC** ATC TGT AAA TCC AGC AGT AAA TGA -3'	(SEQ ID NO:207)
Stacker	5'–**CTG TGT TTT CTT TGT AGA AC** -3'	(SEQ ID NO:208)
ARRESTOR oligonucleotide	5' **CTA CAA CTG GAG GAG GC** -3'	(SEQ ID NO:209)
FRET Probe	5'-FL-CAC-(Z28)-TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

hIL-8

Primary probe	5'-CCG TCA CGC CTC CTC TCA GTT CT-NH2-3'	(SEQ ID NO:210)
INVADER oligonucleotide	5'-GTG TGG TCC ACT CTC AAT CAA -3'	(SEQ ID NO:211)
Stacker	**5'-TTG ATA AAT TTG GGG TGG AAA GGT TTG GA-3'**	(SEQ ID NO:619)
ARRESTOR oligonucleotide	**5'-AGA ACT GAG AGG AGG CG-3'**	(SEQ ID NO:620)
FRET Probe	5'-FL-CAC-(Z28)-TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

hIL-10

Primary probe	5'-AAC GAG GCG CAC CAA ACT CAC TCA T-NH2-3'	(SEQ ID NO:621)
INVADER oligonucleotide	5'-GTC ATG TAG GCT TCT ATG TAG TTG ATG AAG ATG TA-3'	(SEQ ID NO:622)
Stacker	**5'-GGC TTT GTA GAT GCC TTT CTC TTG GA-3'**	(SEQ ID NO:623)
ARRESTOR oligonucleotide	**5'-ATG AGT GAG TTT GGT GCG-3'**	(SEQ ID NO:624)
FRET Probe	5'-FL-CAC (Z28)-TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG TGC GCC TCG **TTT**-3'	(SEQ ID NO:625)

FIGURE 41D

hIL-4

Primary probe	5'-AAC GAG GCG CAC CTT GGA GGC A-NH2-3'	(SEQ ID NO:626)
INVADER oligonucleotide	5'-AAG GTT TCC TTC TCA GTT GTG TTA-3'	(SEQ ID NO:627)
Stacker	**5'-GCA AAG ATG TCT GTT ACG GTC AAC TC-3'**	(SEQ ID NO:628)
ARRESTOR oligonucleotide	**5'-TGC CTC CAA GGT GCG C-3'**	(SEQ ID NO:629)
FRET Probe	5'-FL-CAC (Z28)-TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG TGC GCC TCG **TTT**-3'	(SEQ ID NO:625)

hIFN-γ

Primary probe	5'-AAC GAG GCG CAC CTT CAA AAT GCC TAA-NH2-3'	(SEQ ID NO:630)
INVADER oligonucleotide	5'-TGT CAC TCT CCT CTT TCC AAT TA-3'	(SEQ ID NO:631)
Stacker	**5'-GAA AAG AGT TCC ATT ATC CGC TAC ATC TG-3'**	(SEQ ID NO:632)
ARRESTOR oligonucleotide	**5'-TTA GGC ATT TTG AAG GTG CGC-3'**	(SEQ ID NO:633)
FRET Probe	5'-FL-CAC (Z28)-TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG TGC GCC TCG **TTT**-3'	(SEQ ID NO:625)

FIGURE 41E

hCYP 1A2, 1193G

Primary probe	5'-AAC GAG GCG CAC CGT TGT GTC CC-NH2-3'	(SEQ ID NO:634)
INVADER oligonucleotide	5'-**GGG ATG** TAG AAG CCA TTC AGA-3'	(SEQ ID NO:635)
Stacker	5'-TTG TTG TGC TGT GGG GGA TG-3'	(SEQ ID NO:636)
ARRESTOR oligonucleotide	**5'-GGG ACA CAA CGG TGC GC-3'**	(SEQ ID NO:637)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG TGC GCC TCG **TTT**-3'	(SEQ ID NO:625)

hCYP 2B6, 343G

Primary probe	5'- CCG TCA CGC CTC CAC CAT ATC CC-NH2-3'	(SEQ ID NO:638)
INVADER oligonucleotide	5'-CCA GCG GTT TCC ATT GGC AAA GAT CAA-3'	(SEQ ID NO:639)
Stacker	**5'-CGG AAG AAT GGG TCG ACC ATG-3'**	(SEQ ID NO:640)
ARRESTOR oligonucleotide	**5'-GGG ATA TGG TGG AGG CG-3'**	(SEQ ID NO:641)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

hCYP 2C19, 223G

Primary probe	5'-AAC GAG GCG CAC CGT TCC AGG C-NH2-3'	(SEQ ID NO:642)
INVADER oligonucleotide	5'-CAT ATC CAT GCA GCA CCA CCA TGA-3'	(SEQ ID NO:643)
Stacker	5'-CAA AAT ACA GAG TGA ACA CAG GGC C-3'	(SEQ ID NO:644)
ARRESTOR oligonucleotide	**5'-GCC TGG AAC GGT GCG C-3'**	(SEQ ID NO:645)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG TGC GCC TCG **TTT**-3'	(SEQ ID NO:625)

hCYP 2C9, 1554T

Primary probe	5'-CCG TCA CGC CTC ATG GAT AAT GCC C-NH2-3'	(SEQ ID NO:646)
INVADER oligonucleotide	5'-CAG GTG AGA AAA GGC ATT ACA GAT AGT GAA AGC-3'	(SEQ ID NO:647)
Stacker	5'-CAG AGG AAA GAG AGC TGC AGG G-3'	(SEQ ID NO:648)
ARRESTOR oligonucleotide	**5'-GGG CAT TAT CCA TGA GGC G-3'**	(SEQ ID NO:649)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

FIGURE 41F

hCYP 2D6, 1316G

Primary probe	5'-CCG TCA CGC CTC CCT GCT GAG AAA-NH2-3'	(SEQ ID NO:650)
INVADER oligonucleotide	5'-CCC GAG GCA TGC ACG GCG GA-3'	(SEQ ID NO:651)
Stacker	**5'-GGC AGG AAG GCC TCC-3'**	(SEQ ID NO:652)
ARRESTOR oligonucleotide	**5'-TTT CTC AGC AGG GAG GCG-3'**	(SEQ ID NO:653)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

hCYP 3A4, 309C

Primary probe	5'-CCG TCA CGC CTC GCC CCA CA-NH2-3'	(SEQ ID NO:654)
INVADER oligonucleotide	5'-CAG CAC AGG CTG TTG ACC ATC ATA AAA C-3'	(SEQ ID NO:655)
Stacker	**5'-CTT TTC CAT ACT TTT TAT GAC ATT C-3'**	(SEQ ID NO:656)
ARRESTOR oligonucleotide	**5'-TGT GGG GCG AGG CG-3'**	(SEQ ID NO:657)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

hCYP 3A5 v2, 323T

Primary probe	5'-AAC GAG GCG CAC AGT TGA CCT TC-NH2-3'	(SEQ ID NO:658)
INVADER oligonucleotide	5'-GTG ATG GCC AGC ACA GGG C-3'	(SEQ ID NO:659)
Stacker	**5'-ATA CGT TCC CCA CAT TTT TC-3'**	(SEQ ID NO:660)
ARRESTOR oligonucleotide	**5'-TGA AGG TCA ACT GTG CGC-3'**	(SEQ ID NO:661)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG TGC GCC TCG **TTT**-3'	(SEQ ID NO:625)

hCYP 3A7, 231C

Primary probe	5'-AAC GAG GCG CAC GTC ATA AAT ACC CC-NH2-3'	(SEQ ID NO:662)
INVADER oligonucleotide	5'-GCC AGC ATA GGC TGT TGA CAC-3'	(SEQ ID NO:663)
Stacker	**5'-AGA CTT TTC TAT ACT TTT TAT AAC ATT C-3'**	(SEQ ID NO:664)
ARRESTOR oligonucleotide	**5'-GGG GTA TTT ATG ACG TGC GC-3'**	(SEQ ID NO:665)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG TGC GCC TCG **TTT**-3'	(SEQ ID NO:625)

FIGURE 41G

h/rCYP 1A1 (human: 937, rat 863G)

Primary probe	5'-CCG TCA CGC CTC CTG TCT GTG AT-NH2-3'	(SEQ ID NO:666)
INVADER oligonucleotide (h)	5'-**TCC TGA CAG TGC** TCA ATC AGG A-3'	(SEQ ID NO:667)
INVADER oligonucleotide (r)	5'-**TCC TGA CAA TGC** TCA ATG AGG A-3'	(SEQ ID NO:668)
Stacker	**5'-GTC CCG GAT GTG GCC C-3'**	(SEQ ID NO:669)
ARRESTOR oligonucleotide	**5'-ATC ACA GAC AGG AGG CG-3'**	(SEQ ID NO:670)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

h/rCYP 1A2 (813C/819C)

Primary probe	5'-AAC GAG GCG CAC GGA CTG TTT TCT GC-NH2-3'	(SEQ ID NO:671)
INVADER oligonucleotide (h)	5'-**CTT GTC AAA GTC CTG ATA** GTG CTC CTC-3'	(SEQ ID NO:672)
INVADER oligonucleotide (r)	5'-**CTT GTT GAA GTC TTG ATA** GTG TTC CTC-3'	(SEQ ID NO:673)
ARRESTOR oligonucleotide	**5'-GCA GAA AAC AGT CCG TGC GC-3'**	(SEQ ID NO:674)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG TGC GCC TCG **TTT**-3'	(SEQ ID NO:625)

rCYP 2B1, 1017T

Primary probe	5'-CCG TCA CGC CTC ACT GCG GTC AT-NH2-3'	(SEQ ID NO:675)
INVADER oligonucleotide	5'-GTG GAT AAC TGC ATC AGT GTA TGG CAT TTT C-3'	(SEQ ID NO:676)
Stacker	5'-CAA GGG TTG GTA GCC TGT GTG AGC C-3'	(SEQ ID NO:677)
ARRESTOR oligonucleotide	**5'-ATG ACC GCA GTG AGG CG-3'**	(SEQ ID NO:678)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

rCYP 2B2, 162T

Primary probe	5'-CCG TCA CGC CTC AGA GCC AAT CAC-NH2-3'	(SEQ ID NO:679)
INVADER oligonucleotide	5'-CGA TCA TCA AGG GAT GGT GGC CTG TGC-3'	(SEQ ID NO:680)
Stacker	5'-CTG ATC AAT CTC CTT TTG GAC TTT CTC TGC G-3'	(SEQ ID NO:681)
ARRESTOR oligonucleotide	**5'-GTG ATT GGC TCT GAG GCG-3'**	(SEQ ID NO:682)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)

FIGURE 41H

rCYP 2E1, 969G		
Primary probe	5'-CCG TCA CGC CTC CTC TTC AAT TTC TG-NH2-3'	(SEQ ID NO:683)
INVADER oligonucleotide	5'-CCC TGT CAA TTT CTT CAT GAA GTT TA-3'	(SEQ ID NO:684)
Stacker	**5'-GGT ATT TCA TGA GGA TCA GGA GC-3"**	(SEQ ID NO:685)
ARRESTOR oligonucleotide	**5'-CAG AAA TTG AAG AGG AGG CG-3'**	(SEQ ID NO:686)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)
rCYP 3A1, 164G		
Primary probe	5'-AAC GAG GCG CAC CGG GTC CCA-NH2-3'	(SEQ ID NO:687)
INVADER oligonucleotide	5'-TCC CCT GTT TCT TGA AAA GTC CAT GTG TGA-3'	(SEQ ID NO:688)
Stacker	5'-AAT CCG TAG AGG AGC ACC AGG-3'	(SEQ ID NO:689)
ARRESTOR oligonucleotide	**5'-TGG GAC CCG GTG CGC-3'**	(SEQ ID NO:690)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG TGC GCC TCG **TTT**-3'	(SEQ ID NO:625)
rCYP 3A2, 1091G		
Primary probe	5'-CCG TCA CGC CTC CTC GGC AGG-NH2-3'	(SEQ ID NO:691)
INVADER oligonucleotide	5'-CAC AAT ATC GTA GGT AGG AGG TGC CTT AA-3'	(SEQ ID NO:692)
Stacker	5'-GCC CCA TCG ATC TCC TCC-3'	(SEQ ID NO:693)
ARRESTOR oligonucleotide	**5'-CCT GCC GAG GAG GCG-3'**	(SEQ ID NO:694)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG AGG CGT GAC **GGT**-3'	(SEQ ID NO:190)
rCYP 4A1, 296A		
Primary probe	5'-AAC GAG GCG CAC TAG GCT TTG CT-NH2-3'	(SEQ ID NO:695)
INVADER oligonucleotide	5'-TTC ATG TAG TCA GGG TCA TAG ACA ATT AAG A-3'	(SEQ ID NO:696)
Stacker	5'-TCC CCA GAA CCA TCG AGG AAA GG-3'	(SEQ ID NO:697)
ARRESTOR oligonucleotide	**5'-AGC AAA GCC TAG TGC GC-3'**	(SEQ ID NO:698)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG TGC GCC TCG **TTT**-3'	(SEQ ID NO:625)

FIGURE 41I

rCYP 4A2

Primary probe	5'-AAC GAG GCG CAC AGA AGG CCC CTT-NH2-3'	(SEQ ID NO:699)
INVADER oligonucleotide	5'-CCT TGA ACA GCA CCA GAA ATA GAC TGA GCA C-3'	(SEQ ID NO:700)
Stacker	5'-GGA AGA ACC CAG AGA CAC CAT CC-3'	(SEQ ID NO:701)
ARRESTOR oligonucleotide	**5'-AAG GGG CCT TCT GTG CGC-3'**	(SEQ ID NO:702)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG TGC GCC TCG **TTT**-3'	(SEQ ID NO:625)

rCYP 4A3, 1235C

Primary probe	5'-AAC GAG GCG CAC GTT GTG ATA CCT T-NH2-3'	(SEQ ID NO:703)
INVADER oligonucleotide	5'-**GAT GAA GGC CAT AAA TT**A AAA TTG TGC-3'	(SEQ ID NO:704)
Stacker	**5'-TGG GTA TGG AAC GTC C-3'**	(SEQ ID NO:705)
ARRESTOR oligonucleotide	**5'-AAG GTA TCA CAA CGT GCG C-3'**	(SEQ ID NO:706)
FRET Probe	5'-FL-CAC (Z28) TGC TTC GTG G-3'	(SEQ ID NO:189)
Secondary target	5'-CCA GGA AGC AAG TGG TGC GCC TCG **TTT**-3'	(SEQ ID NO:625)

FIGURE 42

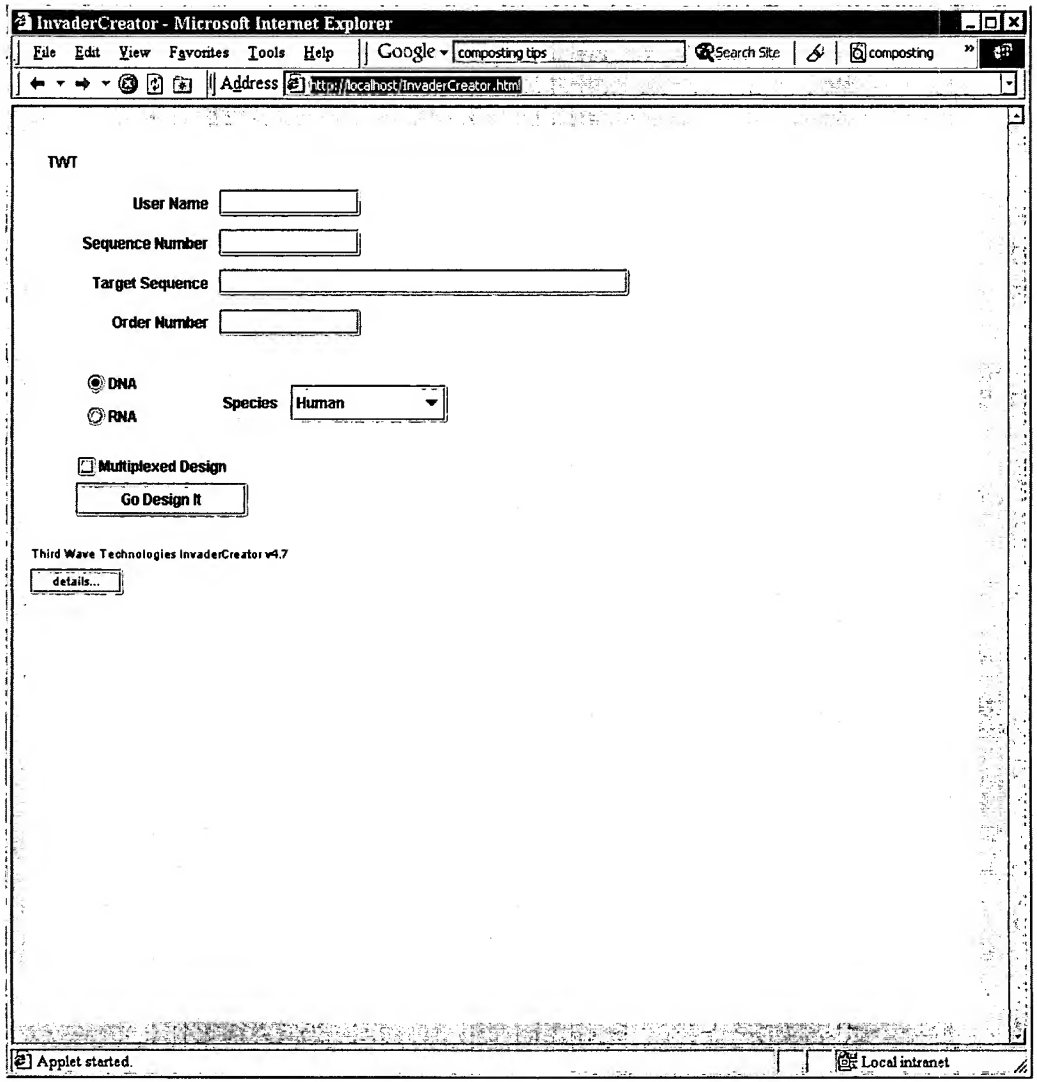

InvaderCreator - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Google
composting tips
Search Site
composting
Address
http://localhost/InvaderCreator.html
TWT
User Name
Sequence Number
Target Sequence
Order Number
DNA
RNA
Species
Human
Multiplexed Design
Go Design It
Third Wave Technologies InvaderCreator v4.7
details...
Applet started.
Local intranet

FIGURE 43

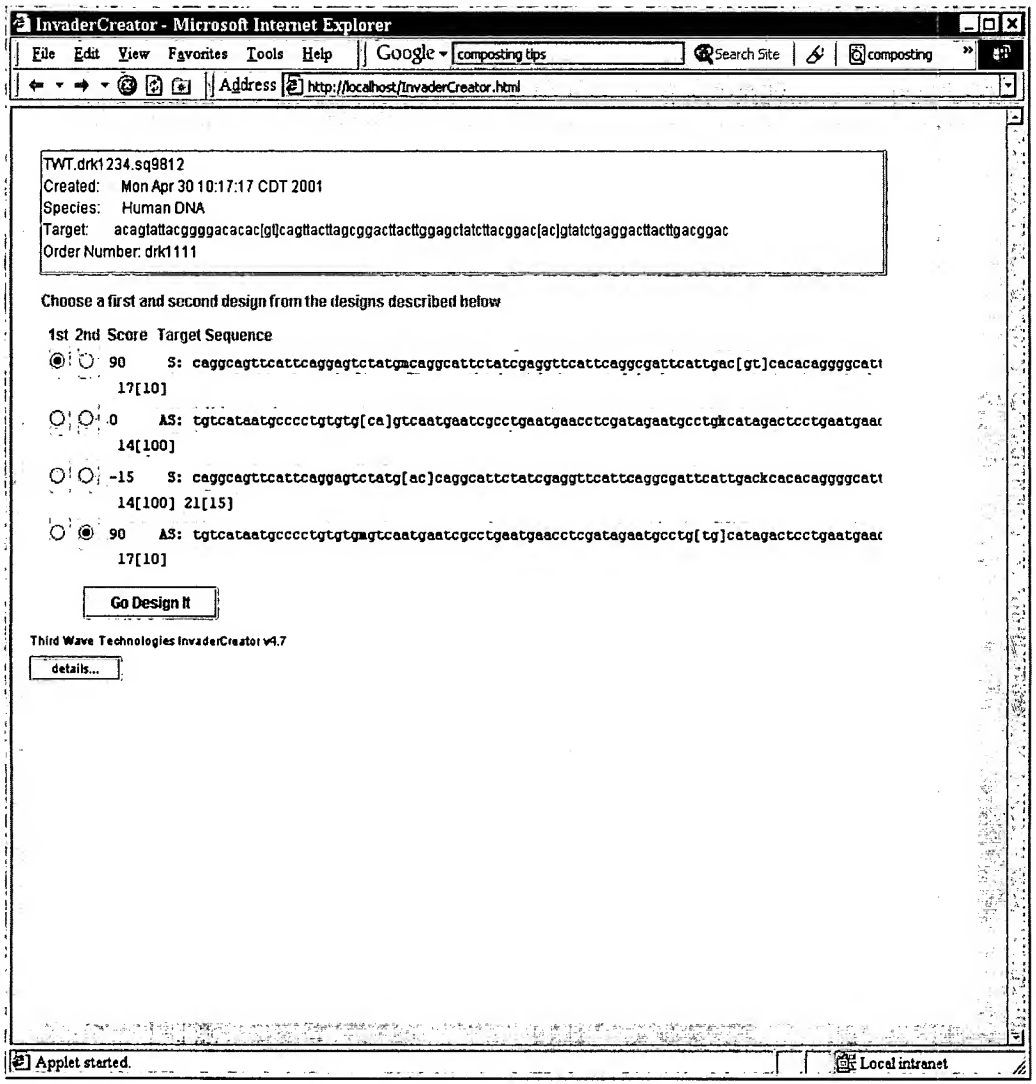

InvaderCreator - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Google composting tips
Search Site
composting
Address http://localhost/InvaderCreator.html
TWT.drk1234.sq9812
Created: Mon Apr 30 10:17:17 CDT 2001
Species: Human DNA
Target: acagtattacggggacacac[gt]cagttacttagcggacttacttggagctatcttacggac[ac]gtatctgaggacttacttgacggac
Order Number: drk1111
Choose a first and second design from the designs described below
1st 2nd Score Target Sequence
90 S: caggcagttcattcaggagtctatgacaggcattctatcgaggttcattcaggcgattcattgac[gt]cacacaggggcatt
17[10]
0 AS: tgtcataatgcccctgtgtg[ca]gtcaatgaatcgcctgaatgaacctcgatagaatgcctgkcatagactcctgaatgaac
14[100]
-15 S: caggcagttcattcaggagtctatg[ac]caggcattctatcgaggttcattcaggcgattcattgackcacacaggggcatt
14[100] 21[15]
90 AS: tgtcataatgcccctgtgtgmgtcaatgaatcgcctgaatgaacctcgatagaatgcctg[tg]catagactcctgaatgaac
17[10]
Go Design It
Third Wave Technologies InvaderCreator v4.7
details...
Applet started.
Local intranet

FIGURE 44

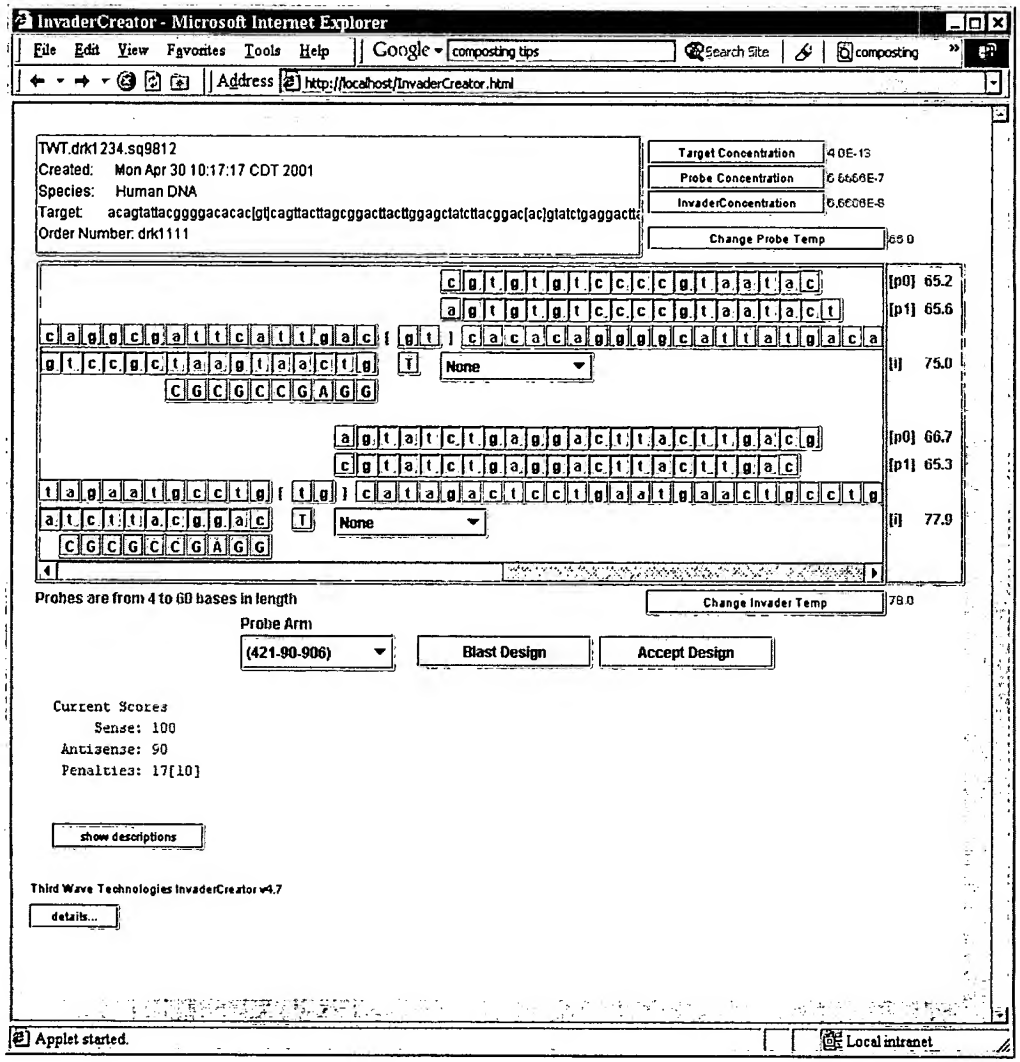

InvaderCreator - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Google
composting tips
Search Site
composting
Address
http://localhost/InvaderCreator.html
TWT.drk1234.sq9812
Created: Mon Apr 30 10:17:17 CDT 2001
Species: Human DNA
Target: acagtattacggggacacac[gt]cagttacttagcggacttacttggagctatcttacggac[ac]gtatctgaggactta
Order Number: drk1111
Target Concentration
4.0E-13
Probe Concentration
6.6666E-7
InvaderConcentration
6.6666E-8
Change Probe Temp
65.0
[p0] 65.2
[p1] 65.6
[i] 75.0
None
[p0] 66.7
[p1] 65.3
[i] 77.9
None
Probes are from 4 to 60 bases in length
Change Invader Temp
78.0
Probe Arm
(421-90-906)
Blast Design
Accept Design
Current Scores
Sense: 100
Antisense: 90
Penalties: 17[10]
show descriptions
Third Wave Technologies InvaderCreator v4.7
details...
Applet started.
Local intranet

FIGURE 45

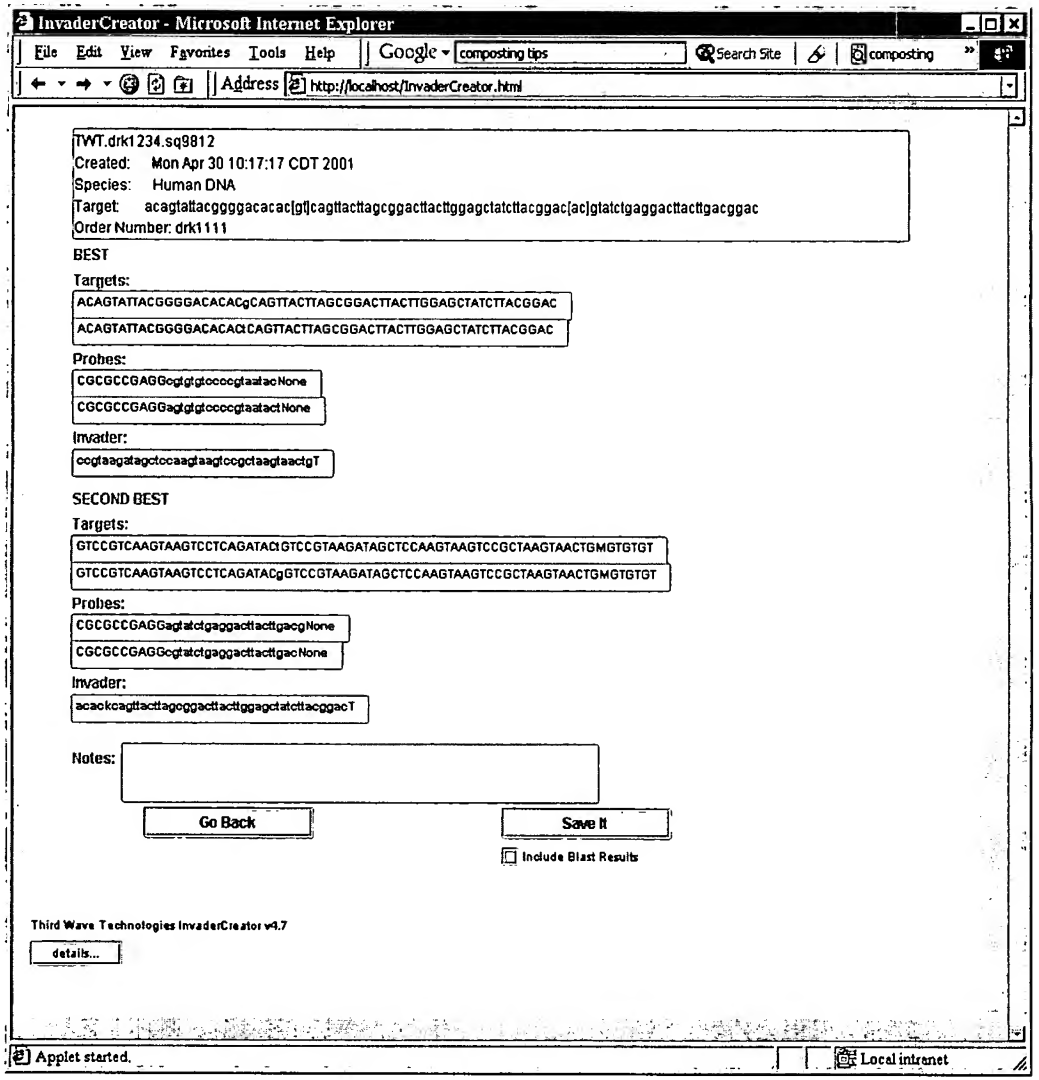

InvaderCreator - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Google composting tips
Search Site
composting
Address http://localhost/InvaderCreator.html
TWT.drk1234.sq9812
Created: Mon Apr 30 10:17:17 CDT 2001
Species: Human DNA
Target: acagtattacggggacacac[gt]cagttacttagcggacttacttggagctatcttacggac[ac]gtatctgaggacttacttgacggac
Order Number: drk1111
BEST
Targets:
ACAGTATTACGGGGACACACgCAGTTACTTAGCGGACTTACTTGGAGCTATCTTACGGAC
ACAGTATTACGGGGACACACtCAGTTACTTAGCGGACTTACTTGGAGCTATCTTACGGAC
Probes:
CGCGCCGAGGcgtgtgtccccgtaatacNone
CGCGCCGAGGagtgtgtccccgtaatactNone
Invader:
ccgtaagatagctccaagtaagtccgctaagtaactgT
SECOND BEST
Targets:
GTCCGTCAAGTAAGTCCTCAGATACtGTCCGTAAGATAGCTCCAAGTAAGTCCGCTAAGTAACTGMGTGTGT
GTCCGTCAAGTAAGTCCTCAGATACgGTCCGTAAGATAGCTCCAAGTAAGTCCGCTAAGTAACTGMGTGTGT
Probes:
CGCGCCGAGGagtatctgaggacttacttgacgNone
CGCGCCGAGGcgtatctgaggacttacttgacNone
Invader:
acackcagttacttagcggacttacttggagctatcttacggacT
Notes:
Go Back
Save It
Include Blast Results
Third Wave Technologies InvaderCreator v4.7
details...
Applet started.
Local intranet

FIGURE 46

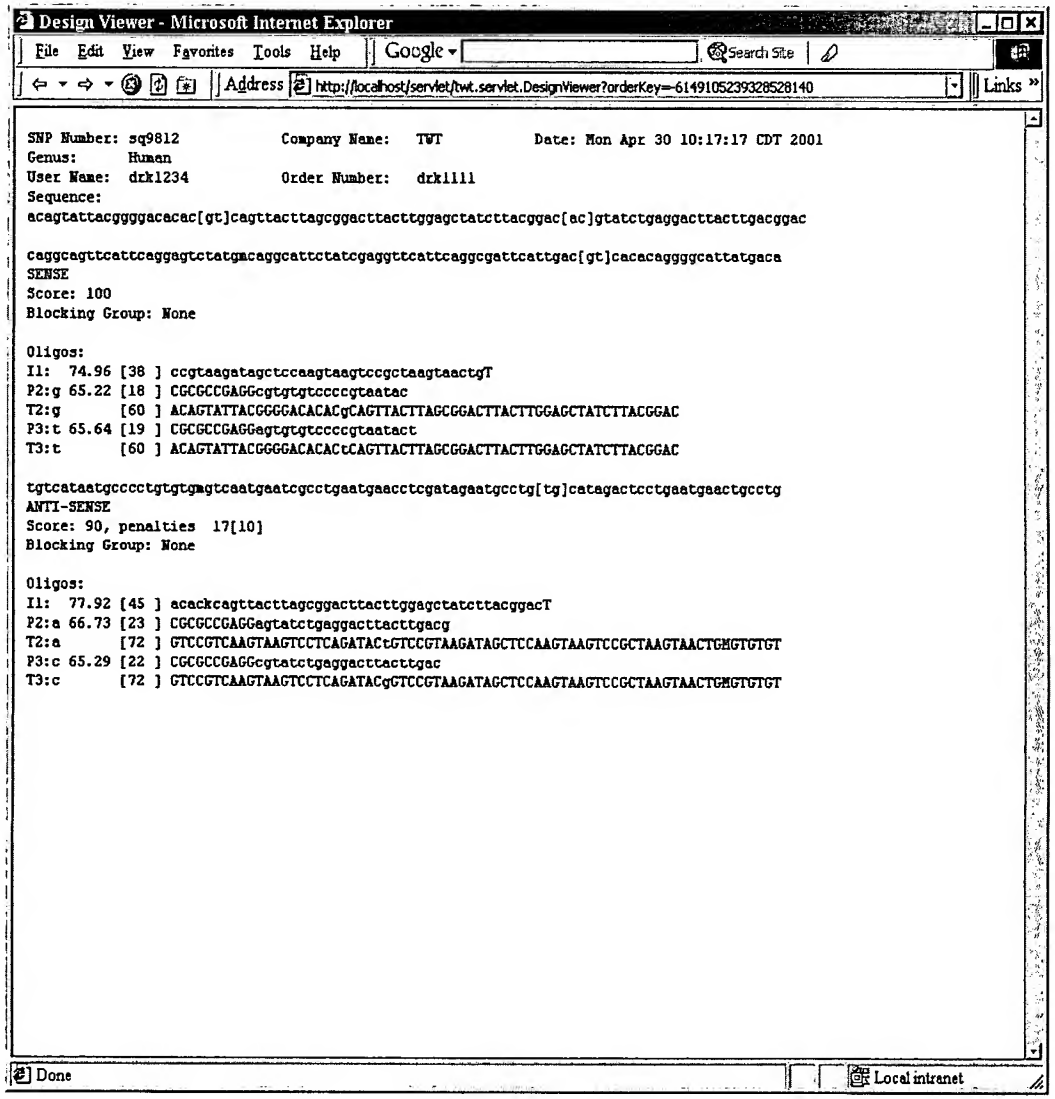

Design Viewer - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Google
Search Site
Address
http://localhost/servlet/twt.servlet.DesignViewer?orderKey=-6149105239328528140
Links
SNP Number: sq9812 Company Name: TWT Date: Mon Apr 30 10:17:17 CDT 2001
Genus: Human
User Name: drk1234 Order Number: drk1111
Sequence:
acagtattacggggacacac[gt]cagttacttagcggacttacttggagctatcttacggac[ac]gtatctgaggacttacttgacggac
caggcagttcattcaggagtctatgacaggcattctatcgaggttcattcaggcgattcattgac[gt]cacacaggggcattatgaca
SENSE
Score: 100
Blocking Group: None
Oligos:
I1: 74.96 [38] ccgtaagatagctccaagtaagtccgctaagtaactgT
P2:g 65.22 [18] CGCGCCGAGGcgtgtgtccccgtaatac
T2:g [60] ACAGTATTACGGGGACACACgCAGTTACTTAGCGGACTTACTTGGAGCTATCTTACGGAC
P3:t 65.64 [19] CGCGCCGAGGagtgtgtccccgtaatact
T3:t [60] ACAGTATTACGGGGACACACtCAGTTACTTAGCGGACTTACTTGGAGCTATCTTACGGAC
tgtcataatgcccctgtgtgmgtcaatgaatcgcctgaatgaacctcgatagaatgcctg[tg]catagactcctgaatgaactgcctg
ANTI-SENSE
Score: 90, penalties 17[10]
Blocking Group: None
Oligos:
I1: 77.92 [45] acackcagttacttagcggacttacttggagctatcttacggacT
P2:a 66.73 [23] CGCGCCGAGGagtatctgaggacttacttgacg
T2:a [72] GTCCGTCAAGTAAGTCCTCAGATACtGTCCGTAAGATAGCTCCAAGTAAGTCCGCTAAGTAACTGMGTGTGT
P3:c 65.29 [22] CGCGCCGAGGcgtatctgaggacttacttgac
T3:c [72] GTCCGTCAAGTAAGTCCTCAGATACgGTCCGTAAGATAGCTCCAAGTAAGTCCGCTAAGTAACTGMGTGTGT
Done
Local intranet

FIG. 47A-1

Oligo sequence descriptions: 5' to 3' direction, 2'-Ome nts are bolded and underlined, internal modifications defined in ( )

Oligo Type	Oligo Sequence (5' to 3')	Modification	SEQ ID NO
hTNF-α			
probe	ccg ccg aga tca ctc tga ctg cct NH2	3' Amine	709
invader	ttg tca ctc ggg gtt cga gaa gat gaa		710
stacker	**ggg cca gag ggc tga tta g**	**all 2'Ome bases**	711
stacker	**ggg cca gag ggc tga tta**	**all 2'Ome bases**	712
stacker	**ggg cca gag ggc tg at**	**all 2'Ome bases**	713
stacker	**ggg cca gag ggc t**	**all 2'Ome bases**	714
stacker	**ggg cca gag gg**	**all 2'Ome bases**	715
arrestor	**agg cag tca gag tga tc**	**all 2'Ome bases**	716
arrestor	**agg cag tca gag tga tct c**	**all 2'Ome bases**	717
SRT	cggaagaagcagttggtgatctcggcggNH2	3' Amine	718
FRET probe	Fcaac(Cy3)gcttcctccg		719
probe	ccg tca cgc ctc tct gac tgc ct NH2	3' Amine	720
invader	ttg tca ctc ggg gtt cga gaa gat gaa		721
stacker	**ggg cca gag ggc tga tta g**	**all 2'Ome bases**	722
arrestor	**agg cag tca gag agg cg**	**all 2'Ome bases**	723
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	724
FRET probe	Fcaac(Cy3)gcttcctccg		725
probe	ccg tca cgc ctc tct gac tgc ctg gNH2	3' Amine	726
invader	ttg tca ctc ggg gtt cga gaa gat gaa		727
arrestor	**cca ggc agt cag aga ggc g**	**all 2'Ome bases**	728
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	729
FRET probe	Fcaac(Cy3)gcttcctccg		730
probe	ccg ccg aga tca ctc tga ctg cc NH2	3' Amine	731
invader	ttg tca ctc ggg gtt cga gaa gat gaa		732
stacker	**tgg gcc aga ggg ctg att a**	**all 2'Ome bases**	733
arrestor	**agg cag tca gag tga tc**	**all 2'Ome bases**	734
SRT	cggaagaagcagttggtgatctcggcggNH2	3' Amine	735
FRET probe	Fcaac(Cy3)gcttcctccg		736

FIG. 47A-2

probe	ccg ccg aga tca ctg atc tga ctg NH2	3' Amine	737
invader	ctt gtc act cgg ggt tcg aga aga c		738
stacker	**cct ggg cca gag ggc tga tt**	**all 2'Ome bases**	739
arrestor	**cag tca gat cag tga tc**	**all 2'Ome bases**	740
SRT	cggaagaagcagttggtgatctcggcggNH2	3' Amine	741
FRET probe	Fcaac(Cy3)gcttcctccg		742
probe	ccg tca cgc ctc tct gac tgc ca NH2	3' Amine	743
probe	ccg tca cgc ctc tct gac tgc cg NH2	3' Amine	744
probe	ccg tca cgc ctc tct gac ggc ct NH2	3' Amine	745
probe	ccg tca cgc ctc tct gac agc ct NH2	3' Amine	746
invader	ttg tca ctc ggg gtt cga gaa gat gaa		747
stacker	**ggg cca gag gg**	**all 2'Ome bases**	748
arrestor	**agg cag tca gag agg cg**	**all 2'Ome bases**	749
arrestor	**agg ccg tca gag agg cg**	**all 2'Ome bases**	750
arrestor	**agg ctg tca gag agg cg**	**all 2'Ome bases**	751
SRT	ccaggaagcaagtggaggcgtgac**ggu**	**3' 3bases 2'Ome**	752
FRET probe	Fcac(Z21)tgcttcgtgg		753
probe	ccg ccg aga tca ctc tga tgc ctg gg NH2	3' Amine	754
invader	ctt gtc act cgg ggt tcg aga aga tga a		755
arrestor	**ccc agg cag tca gag tga tcNH2**	**all 2'Ome bases,3' Amine**	756
SRT	cggaggaagcagttggtgatctcggc**gg**NH2	3' 2 last base **2' Ome**, 3' Amine	757
FRET probe	Fcaac(Cy3)gcttcctccg		758

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hIL-1β

probe	ccg tca cgc ctc cat ctg ttt agg g NH2	3' Amine	759
invader	cag gtc ctg gaa gga gca ctt a		760
stacker	**cca tca gct tct ttg ttc ttg tca tc**	**all 2'Ome bases**	761
arrestor	**gcc cta aac aga tgg agg cg**	**all 2'Ome bases**	762
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	763
FRET probe	Fcaac(Cy3)gcttcctccg		764

FIG. 47A-3

probe	ccg tca cgc ctc cat ctg ttt agg gc NH2	3' Amine	765
invader	cag gtc ctg gaa gga gca ctt a		766
stacker	**cat cag ctt ctt tgt tct tgt cat cc**	**all 2'Ome bases**	767
arrestor	**gcc cta aac aga tgg agg cg**	**all 2'Ome bases**	768
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	769
FRET probe	Fcaac(Cy3)gcttcctccg		770
probe	ccg tca cgc ctc cat ctg ttt agg NH2	3' Amine	771
invader	cag gtc ctg gaa gga gca ctt a		772
stacker	**gcc atc agc ttc ttt gtt ctt gtc atc**	**all 2'Ome bases**	773
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	774
FRET probe	Fcaac(Cy3)gcttcctccg		775
probe	ccg tca cgc ctc cca tca gct tcNH2	3' Amine	776
invader	gag cac ttc atc tgt tta ggg a		777
stacker	**ttt gtt ctt gtc atc ctc att gcc ac**	**all 2'Ome bases**	778
arrestor	**gaa gct gat ggg agg cg**	**all 2'Ome bases**	779
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	780
FRET probe	Fcaac(Cy3)gcttcctccg		781
probe	ccgccgagatcactcatctgtttagggccNH2	3' Amine	782
probe	ccgccgagatcactcatctgtttagggcNH2	3' Amine	783
invader	caggtcctggaaggagcacta		784
arrestor	**ggccctaaacagatgagtgatcNH2**	**all 2'Ome bases,3' Amine**	785
SRT	cggaggaagcagttggtgatctcggcggNH2	3' 2 last base **2' Ome**, 3' Amine	786
FRET probe	Fcaac(Cy3)gcttcctccg		787

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hcFOS

probe	ccg tca cgc ctc cag cag gtt ggc NH2	3' Amine	788
invader	gct tga ccc agg gag gg		789
arrestor	**gcc aag gtg ctg gag gcg**	**all 2'Ome bases**	790
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	791
FRET probe	Fcaac(Cy3)gcttcctccg		792

FIG. 47A-4

probe	ccg tca cgc ctc cag cag gtt gg NH2	3' Amine	793
invader	gct tga ccc agg gag gg		794
stacker	**caa tct cgg tct gca aag cag ac**	**all 2'Ome bases**	795
arrestor	**gcc aag gtg ctg gag gcg**	**all 2'Ome bases**	796
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	797
FRET probe	Fcaac(Cy3)gcttcctccg		798
probe	ccg tca cgc ctc tca gca ggt tgg NH2	3' Amine	799
invader	act cta gtt ttt cct tct cct a		800
stacker	**caa tct cgg tct gca aag cag ac**	**all 2'Ome bases**	801
arrestor	**cca acc tgc tga gag gcg**	**all 2'Ome bases**	802
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	803
FRET probe	Fcaac(Cy3)gcttcctccg		804

hIL-6

probe	ccg ccg aga tca ctc tcc tca ttg aat cct NH2	3' Amine	805
probe	ccg ccg aga tca ctc tcc tca ttg aat ccNH2	3' Amine	806
invader	cca aaa gtc cag tga tga ttt tca cca ggc aag a		807
arrestor	**agg att caa tga gga aga gtg atc tNH2**	**all 2'Ome bases,3' Amine**	808
SRT	cggaggaagcagttggtgatctcggc**gg**NH2	3' 2 last base **2' Ome**, 3' Amine	809
FRET probe	Fcaac(Cy3)gcttcctccg		810
probe	ccg tca cgc ctc ctc ctc att gaaNH2	3' Amine	811
invader	cca gtg atg att ttc acc agg caa gta		812
stacker	**tcc aga ttg gaa gca tcc atc t**	**all 2'Ome bases**	813
arrestor	**ttc aat gag gag gag gc**	**all 2'Ome bases**	814
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	815
FRET probe	Fcaac(Cy3)gcttcctccg		816
probe	ccg tca cgc ctc ctc ctc att gaNH2	3' Amine	817
invader	cca gtg atg att ttc acc agg caa gta		818
stacker	**atc cag att gga agc atc cat ct**	**all 2'Ome bases**	819
arrestor	**ttc aat gag gag gag gc**	**all 2'Ome bases**	820
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	821
FRET probe	Fcaac(Cy3)gcttcctccg		822

FIG. 47A-5

probe	ccg tca cgc ctc ctc ctc att gaa tgNH2	3' Amine	823
probe	ccg tca cgc ctc ctc ctc att gaa taNH2	3' Amine	824
probe	ccg tca cgc ctc ctc ctc att gaa ttNH2	3' Amine	825
invader	cca aaa gtc cag tga tga ttt tca cca ggc aag ta		826
stacker	**cagattggaagcatccatct**	**all 2'Ome bases**	827
arrestor	**gattcaatgaggaggaggc**	**all 2'Ome bases**	828
SRT	ccaggaagcaagtggaggcgtgac**ggu**	**3' 3bases 2'Ome**	829
FRET probe	Fcac(Z21)tgcttcgtgg		830
hMCP-1			
probe	ccg tca cgc ctc ctt cgg agt ttg gtNH2	3' Amine	831
probe	ccg tca cgc ctc ctt cgg agt ttg gtt NH2	3' Amine	832
invader	ggg ttg tgg agt gag tgt tca agt a		833
arrestor	**aac cca aac tcc gaa ggc ggc gtg NH2**	**all 2'Ome bases**	834
SRT	cggaagaagcagttggaggcgtgacgg**t**NH2	3'base **2'Ome**, 3'Amine	835
FRET probe	Fcaac(Cy3)gcttcctccg		836
probe	gcc gtc acg cct ctt tgg gtt tgc ttg tc NH2	3' Amine	837
probe	gcc gtc acg cct ctt tgg gtt tgc ttg tNH2	3' Amine	838
Invader	tggagtgagtgttcaagtcttcggaga		839
arrestor	**gacaagcaaacccaaagaggcg**	**all 2'Ome bases**	840
SRT	cggaagaagcagttggaggcgtgacg**gc**NH2	3'2 bases **2'Ome**, 3'Amine	841
FRET probe	Fcaac(Cy3)gcttcctccg		842
probe	cct gtc tcg ctg cct tcg gag ttt ggg		843
probe	cct gtc tcg ctg cct tcg gag ttt gg		844
invader	ggg ttg tgg agt gag tgt tca agt a		845
arrestor	**ccc aaa ctc cga agg cag cg**	**all 2'Ome bases**	846
SRT	cggaggaagcagttggcagcgagacag**g**NH2	3' last base **2'Ome**, 3' Amine	847
SRT	cggaggaagcagttggcagcgagac(Amino dA)g**g**NH2	Amino dA modification	848
SRT	cggaggaagcagttggcagcg(Amino dA)gacag**g**NH2	Amino dA modification	849
SRT	cggaggaagcagttggc(Amono dA)gcgagacag**g**NH2	Amino dA modification	850
SRT	cggaggaagcagttggcagcg(Amino dA)gac(Amino dA)g**g**NH2	Amino dA modification	851
SRT	cggaggaagcagttggc(Amino dA)gcgagac(Amino dA)g**g**NH2	Amino dA modification	852
SRT	cggaggaagcagttggc(Amino dA)gcg(Amino dA)gacag**g**NH2	Amino dA modification	853
FRET probe	Fcaac(Cy3)gcttcctccg		854

FIG. 47A-6

probe	gcc gtc acg cct ctg gga cac ttg ctg cNH2	3' Amine	855
invader	gcc aca atg gtc ttg aag atc aca gct tct ta		856
arrestor	**gca gca agt gtc cca gag gcg NH2**	**all 2'Ome bases,3' Amine**	857
SRT	cggaagaagcagttggaggcgtgacg**gc**NH2	3'2 bases **2'Ome**, 3'Amine	858
FRET probe	Fcaac(Cy3)gcttcctccg		859
probe	ccg tca cgc ctc ctt cgg agt ttg gg NH2	3' Amine	860
invader	ggg ttg tgg agt gag tgt tca agt a		861
arrestor	**5'-ggg-aaa-ctc-cga-agg- agg-cg-3'**	**all 2'Ome bases**	862
SRT	ccaggaagcaagtggaggcgtgac**ggu**	**3' 3bases 2'Ome**	863
FRET probe	Fcac(Z21)tgcttcgtgg		864
probe	cgc cga gat cac ctt cgg agt ttg ggNH2	3' Amine	865
invader	ggg ttg tgg agt gag tgt tca agt a		866
arrestor	**ccc aaa ctc cga agg tga tc**	**all 2'Ome bases**	867
SRT	cggaagaagcagttggtgatctcggcggNH2	3' Amine	868
FRET probe	Fcaac(Cy3)gcttcctccg		869
probe	aac gag gcg cac ctt cgg agt ttg gg NH2	3' Amine	870
invader	ggg ttg tgg agt gag tgt tca agt a		871
arrestor	**ccc aaa ctc cga agg tgc g**	**all 2'Ome bases**	872
SRT	cggaagaagcagttggtgcgcctc**gttaa**NH2	3' last 5 bases **2'Ome,** 3' Amine	873
FRET probe	Fcaac(Cy3)gcttcctccg		874
probe	ccg tca cgc ctc ctt cgg agt ttg g NH2	3' Amine	875
invader	ggg ttg tgg agt gag tgt tca agt a		876
stacker	**gtt tgc ttg tcc agg tgg**	**all 2'Ome bases**	877
arrestor	**cca aac tcc gaa gga ggc g**	**all 2'Ome bases**	878
SRT	cggaagaagcagttggaggcgtgacgg**t**NH2	3'base **2'Ome**, 3'Amine	879
FRET probe	Fcaac(Cy3)gcttcctccg		880
probe	ccg tca cgc ctc ctt cgg agt ttg NH2	3' Amine	881
invader	ggg ttg tgg agt gag tgt tca agt a		882
stacker	**gtt ttg ctt gtc cag gtg g**	**all 2'Ome bases**	883
arrestor	**cca aac tcc gaa gga ggc g**	**all 2'Ome bases**	884
SRT	cggaagaagcagttggaggcgtgacgg**t**NH2	3'base **2'Ome**, 3'Amine	885

FIG. 47A-7

FRET probe	Fcaac(Cy3)gcttcctccg		886
probe	ccg tca cgc ctc ctt cgg agt ttNH2	3' Amine	887
invader	ggg ttg tgg agt gag tgt tca agt a		888
stacker	**ggg ttt gct tgt cca ggt g**	**all 2'Ome bases**	889
arrestor	**cca aac tcc gaa gga ggc g**	**all 2'Ome bases**	890
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	891
FRET probe	Fcaac(Cy3)gcttcctccg		892
probe	ccgtcacgcctccggagtttgggNH2	3' Amine	893
invader	gtt gtg gag tga gtg ttc aag tat ta		894
stacker	**ttt gct tgt cca ggt ggt cca g**	**all 2'Ome bases**	895
arrestor	**ccc aaa ctc cgg agg cg**	**all 2'Ome bases**	896
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	897
FRET probe	Fcaac(Cy3)gcttcctccg		898
probe	cgc cga gat cac cgg agt ttg ggNH2	3' Amine	899
invader	gtt gtg gag tga gtg ttc aag tat ta		900
stacker	**ttt gct tgt cca ggt ggt cca g**	**all 2'Ome bases**	901
arrestor	**cta gtg gcc tca aac cc**	**all 2'Ome bases**	902
SRT	cggaagaagcagttggtgatctcggcggNH2	3' Amine	903
FRET probe	Fcaac(Cy3)gcttcctccg		904

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hUbiquitin			
probe	cgc cga gat cac ctt tac att ttc tat cgt		905
probe	cgc cga gat cac ctt tac att ttc tat cgt NH2	3' Amine	906
invader	5' –cct tcc tta tcc tgg atc ttg gca -3'		907
arrestor	**acg ata gaa aat gta aag gtg atc**	**all 2'Ome bases**	908
SRT	5'-cgc agt gag aat gag gtg atc tcg gc**ggt**-3'	**3' last 3 bases 2'Ome**	909
FRET probe	5'-Red-ctc-Z21-ttc tca gtg cg-3'		910

FIG. 47A-8

hIL-2			
probe	gtttcttttgtgtctccgcactgccNH2	3' Amine	911
invader	cca gca gta aat gct cca gtt gta ga		912
stacker	**tag aac ttg aag tag gtg c**	**all 2'Ome bases**	913
arrestor	**caa aga aaa cac agg agg c**	**all 2'Ome bases**	914
SRT	ccaggaagcaagtggaggcgtgac**ggu**	**3' 3bases 2'Ome**	915
FRET probe	Fcac(Z21)tgcttcgtgg		916
probe	aac gag gcg cac ctg tgt ttt ctt tg NH2	3' Amine	917
invader	cca gca gta aat gct cca gtt gta ga		918
stacker	**tag aac ttg aag tag gtg c**	**all 2'Ome bases**	919
arrestor	**caa aga aaa cac agg tgc g**	**all 2'Ome bases**	920
SRT	ccaggaagcaagtggtgcgcctcg**ttt**	3' last 3 bases **2'Ome**	921
FRET probe	Fcac(Z21)tgcttcgtgg		922
probe	ccg tca cgc ctc ctc cag ttg tag NH2	3' Amine	923
invader	**aaa atc** atc tgt aaa tcc agc agt aaa tga	5' 6 bases **2'Ome**	924
stacker	**ctg tgt ttt ctt tgt aga ac**	**all 2'Ome bases**	925
arrestor	**cta caa ctg gag gag gc**	**all 2'Ome bases**	926
SRT	ccaggaagcaagtggaggcgtgac**ggu**	**3' 3bases 2'Ome**	927
FRET probe	Fcac(Z21)tgcttcgtgg		928
probe	aac gag gcg cac ctc cag ttg tag NH2	3' Amine	929
invader	**aaa atc** atc tgt aaa tcc agc agt aaa tga	5' 6 bases **2'Ome**	930
stacker	**ctg tgt ttt ctt tgt aga ac**	**all 2'Ome bases**	931
arrestor	**cta caa ctg gag gtg cg**	**all 2'Ome bases**	932
SRT	ccaggaagcaagtggtgcgcctcg**ttt**	3' last 3 bases **2'Ome**	933
FRET probe	Fcac(Z21)tgcttcgtgg		934
probe	ccg tca cgc ctc ctg tgt ttt ctt tgt aNH2	3' Amine	935
invader	gta aat cca gca gta aat gct cca gtt gta ga		936
stacker	**gaa ctt gaa gta ggt gca ctg tt**	**all 2'Ome bases**	937
arrestor	**tacaaagaaaacacaggaggcgtNH2**	**all 2'Ome bases, 3' amine**	938
SRT	ccaggaagcaagtggaggcgtgac**ggu**	**3' 3bases 2'Ome**	939
FRET probe	Fcac(Z21)tgcttcgtgg		940
probe	aac gag gcg cac ctg tgt ttt ctt tgt aNH2	3' Amine	941

FIG. 47A-9

invader	gta aat cca gca gta aat gct cca gtt gta ga		942
stacker	**gaa ctt gaa gta ggt gca ctg tt**	**all 2'Ome bases**	943
arrestor	**tac aaa gaa aac aca ggt gcg**	**all 2'Ome bases**	944
SRT	ccaggaagcaagtggtgcgcctcg**ttt**	3' last 3 bases **2'Ome**	945
FRET probe	Fcac(Z21)tgcttcgtgg		946
probe	ccg tca cgc ctc ctc cag ttg taa NH2	3' Amine	947
probe	ccg tca cgc ctc ctc cag ttg tat NH2	3' Amine	948
probe	ccg tca cgc ctc ctc cag ttg tac NH2	3' Amine	949
invader	**aaa atc** atc tgt aaa tcc agc agt aaa tga	5' 6 bases **2'Ome**	950
stacker	**ctg tgt ttt ctt tgt aga ac**	**all 2'Ome bases**	951
arrestor	**cta caa ctg gag gag gc**	**all 2'Ome bases**	952
SRT	ccaggaagcaagtggaggcgtgac**ggu**	**3' 3bases 2'Ome**	953
FRET probe	Fcac(Z21)tgcttcgtgg		954
probe	gcc gtc acg cct ccc ttc ttg atg NH2	3' Amine	955
invader	ttc tag aca ctg aag atg ttt cag ttc tgt gga		956
arrestor	**cat gcc caa gaa ggg agg cg NH2**	**all 2'Ome bases,3' Amine**	957
SRT	cggaagaagcagttggaggcgtgacg**gc**NH2	3'2 bases **2'Ome**, 3'Amine	958
FRET probe	Fcaac(Cy3)gcttcctccg		959
probe	ccg tca cgc ctc taa ttc cat tca aaa tca tct NH2	3' Amine	960
invader	cat cct ggt gag ttt ggg att ctt gta att tat a		961
stacker	**gta aat cca gca gta aat gct cca gNH2**	**all 2'Ome bases,3' Amine**	962
arrestor	**aga tga ttt tga atg gaa tta gag gcg NH2**	**all 2'Ome bases,3' Amine**	963
SRT	cggaagaagcagttggaggcgtgacg**gc**NH2	3'2 bases **2'Ome**, 3'Amine	964
FRET probe	Fcaac(Cy3)gcttcctccg		965
probe	ccg ccg aga tca cct gtg ttt tct ttg ta		966
invader	gta aat cca gca gta aat gct cca gtt gta ga		967
stacker	**gaa ctt gaa gta ggt gca ctg tt**	**All 2' Ome**	968
stacker	gaa ctt gaa gta ggt gca ctg tt		969
stacker	**gaa** ctt gaa gta ggt gca ctg tt	**5' 3bases 2'Ome**	970
stacker	**gaa ctt** gaa gta ggt gca ctg tt	**5' 6bases 2'Ome**	971
arrestor	**tac aaa gaa aac aca ggt gat ct**	**All 2' Ome**	972
SRT	cggaggaagcagttggtgatctcggc**gg**NH2	3' 2 last base **2' Ome**, 3' Amine	973
FRET probe	Fcaac(Cy3)gcttcctccg		974

FIG. 47A-10

probe	aac gag gcg cac cct tct tgg gca tgNH2	3' Amine	975
invader	ttc tag aca ctg aag atg ttt cag ttc tgt gga		976
arrestor	**cat gcc caa gaa ggg tgc gNH2**	**all 2'Ome bases**	977
SRT	cggaagaagcagttggtgcgcctc**gttaa**NH2	3' last 5 bases **2'Ome,** 3' Amine	978
FRET probe	Fcaac(Cy3)gcttcctccg		979
probe	aac gag gcg cac taa ttc cat tca aaa tca tct		980
invader	cat cct ggt gag ttt ggg att ctt gta att tat a		981
stacker	**gta aat cca gca gta aat gct cca gNH2**	**all 2'Ome bases,3' Amine**	982
arrestor	**aga tga ttt tga atg gaa tta gtg gt NH2**	**all 2'Ome bases,3' Amine**	983
SRT	cggaagaagcagttggtgcgcctc**gttaa**NH2	3' last 5 bases **2'Ome,** 3' Amine	984
FRET probe	Fcaac(Cy3)gcttcctccg		985

hIL-4

probe	cct gtc tcg ctg cca gtt gtg ttc ttg gag NH2	3' Amine	986
invader	ccc tgc aga agg ttt cct tct a		987
invader	ccc tgc aga tgg ttt cct tct a		988
arrestor	**ctc caa gaa cac aac tgg cag cNH2**	**all 2'Ome bases,3' Amine**	989
arrestor	**ctc caa gaa cac aac tgg cag cga NH2**	**all 2'Ome bases,3' Amine**	990
arrestor	**ctc caa gaa cac aac tgg cag cga gaNH2**	**all 2'Ome bases,3' Amine**	991
SRT	cggaggaagcagttggcagcgagacag**g**NH2	3' last base **2'Ome**, 3' Amine	992
FRET probe	Fcaac(Cy3)gcttcctccg		993
probe	aac gag gcg cac ctt gga ggc agc aaa NH2	3' Amine	994
probe	aac gag gcg cac ctt gga ggc agc aaNH2	3' Amine	995
invader	aag gtt tcc ttc tca gtt gtg tta		996
arrestor	**ctt tgc tgc ctc caa ggt gcg NH2**	**all 2'Ome bases,3' Amine**	997
SRT	cggaggaagcagttggtgcgcctc**gttaa NH2**	3' last 5 bases 2'Ome, 3' Amine	998
FRET probe	Fcaac(Cy3)gcttcctccg		999
probe	cag tca cgt ctc tgg agg cag caa aga tg NH2	3' Amine	1000
invader	aag gtt tcc ttc tca gtt gtg ttc ta		1001
arrestor	**cat ctt tgc tgc ctc cag aga cg NH2**	**all 2'Ome bases,3' Amine**	1002
SRT	gctactgagatgaaggagacgtgactgtaNH2	3' Amine	1003
FRET probe	Fcttc(Cy3)tctcagtagc		1004

FIG. 47A-11

probe	aac gag gcg cac ctt gga ggc agc aaa g NH2	3' Amine	1005
invader	aag gtt tcc ttc tca gtt gtg tta		1006
arrestor	**ctt tgc tgc ctc caa ggt gcg NH2**	**all 2'Ome bases,3' Amine**	1007
SRT	cggaggaagcagttggtgcgcctc**gttaa**	3' last 5 bases 2'Ome	1008
FRET probe	Fcaac(Cy3)gcttcctccg		1009

mIL-2

probe	cgc cga gat cac ccc ttt agt ttt aca aca gtNH2	3' Amine	1010
invader	gaa ttg gca ctc aaa tgt gtt gtc aga ga		1011
arrestor	**act gtt gta aaa cta aag ggg gtg atc t NH2**	**all 2'Ome bases,3' Amine**	1012
SRT	cggaggaagcggttggtgatctcgg**cg**NH2	3' last two bases are 2' Ome , 3' Amine	1013
FRET probe	Fcaac(Cy3)gcttcctccg		1014
probe	tgc cgc cga gat cac ccc ttt agt ttt aca aca gtNH2	3' Amine	1015
invader	gaa ttg gca ctc aaa tgt gtt gtc aga ga		1016
arrestor	**act gtt gta aaa cta aag ggg gtg NH2**	**all 2'Ome bases,3' Amine**	1017
arrestor	**act gtt gta aaa cta aag ggg gtg at NH2**	**all 2'Ome bases,3' Amine**	1018
arrestor	**act gtt gta aaa cta aag ggg gtg at ctNH2**	**all 2'Ome bases,3' Amine**	1019
arrestor	**act gtt gta aaa cta aag ggg gtg at ctcgNH2**	**all 2'Ome bases,3' Amine**	1020
SRT	cggaggaagcggttggtgatctcggcgg**ca**NH2	3' Last 2bases 2'Ome, 3' Amine	1021
FRET probe	Fcaac(Cy3)gcttcctccg		1022
probe	gc cgc cga gat cac ccc ttt agt ttt aca aca gtNH2	3' Amine	1023
probe	c cgc cga gat cac ccc ttt agt ttt aca aca gtNH2	3' Amine	1024
invader	gaa ttg gca ctc aaa tgt gtt gtc aga ga		1025
arrestor	**act gtt gta aaa cta aag ggg gtg at NH2**	**all 2'Ome bases,3' Amine**	1026
SRT	cggaggaagcggttggtgatctcggcgg**ca**NH2	3' Last 2bases 2'Ome, 3' Amine	1027
FRET probe	Fcaac(Cy3)gcttcctccg		1028
probe	aac gag gcg cac ccc ttt agt ttt aca aca gt NH2	3' Amine	1029
invader	gaa ttg gca ctc aaa tgt gtt gtc aga ga		1030
arrestor	**agtaactgttgtaaaactaaaggggtgcg**	**all 2'Ome bases,3' Amine**	1031
SRT	cggaggaagcagttggtgcgcctc**gttaa**	3' last 5 bases 2'Ome	1032
FRET probe	Fcaac(Cy3)gcttcctccg		1033

FIG. 47A-12

probe	aac gag gcg cac ccc ttt agt ttt aca aca gt NH2	3' Amine	1034
invader	gaa ttg gca ctc aaa tgt gtt gtc aga ga		1035
arrestor	**agt aac tgt tgt aaa act aaa ggg gtg cg NH2**	**all 2'Ome bases,3' Amine**	1036
SRT	cggaggaagcagttggtgcgcctc**gttaa**	3' last 5 bases 2'Ome	1037
FRET probe	Fcaac(Cy3)gcttcctccg		1038
probe	ccgtcacgcctccccttagttttacaacNH2	3' Amine	1039
invader	gaa ttg gca ctc aaa tgt gtt gtc aga ga		1040
stacker	**agt tac tct gat att gct gat gaa att ctc ag**	**all 2'Ome bases,**	1041
arrestor	**gttgtaaaactaaaggggaggcg**	**all 2'Ome bases,**	1042
SRT	cggaagaagcagttggaggcgtgacgg**t**NH2	3'base **2'Ome**, 3'Amine	1043
FRET probe	Fcaac(Cy3)gcttcctccg		1044
probe	cgccgagatcacccctttagttttacaacNH2	3' Amine	1045
invader	gaa ttg gca ctc aaa tgt gtt gtc aga ga		1046
stacker	**agt tac tct gat att gct gat gaa att ctc ag**	All **2'Ome**	1047
arrestor	**gttgtaaaactaaaggggtgatc**	All **2'Ome**	1048
SRT	cggaagaagcagttggtgatctcggcggNH2	3' Amine	1049
FRET probe	Fcaac(Cy3)gcttcctccg		1050
probe	ccgtcacgcctccccttagttttacaaNH2	3' Amine	1051
invader	gaa ttg gca ctc aaa tgt gtt gtc aga ga		1052
stacker	**cagttactctgatattgctgatgaaattctca**	All **2'Ome**	1053
arrestor	**gttgtaaaactaaaggggaggcg**	All **2'Ome**	1054
SRT	cggaagaagcagttggaggcgtgacgg**t**NH2	3'base **2'Ome**, 3'Amine	1055
FRET probe	Fcaac(Cy3)gcttcctccg		1056
probe	ccgtcacgcctccccttagttttacaaNH2	3' Amine	1057
invader	gaa ttg gca ctc aaa tgt gtt gtc aga ga		1058
stacker	**cagttactctgatattgctgatgaaattctca**	All **2'Ome**	1059
arrestor	**gttgtaaaactaaaggggaggcg**	All **2'Ome**	1060
SRT	ccaggaagcagttggaggcgtgacgg**tNH2**	3' 2 bases **2'Ome**, 3'Amine	1061
FRET probe	Fcaac(Cy3)gcttcgtgg		1062

FIG. 47A-13

mIL-10			
probe	ccg tca cgc ctc ccg tta gct aag at NH2	3' Amine	1063
invader	cga ggt ttt cca agg agt tgt tta		1064
stacker	**ccc tgg atc aga ttt aga gag c**	**all 2'Ome bases,**	1065
arrestor	**atc tta gct aac ggg agg cg**	**all 2'Ome bases,**	1066
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	1067
FRET probe	Fcaac(Cy3)gcttcctccg		1068
probe	ccg tca cgc ctc agt tgt ttc cgt tNH2	3' Amine	1069
invader	aga ggt aca aac gag gtt ttc caa ggc		1070
stacker	**agc taa gat ccc tgg atc aga ttt aga ga**	**all 2'Ome bases,**	1071
arrestor	**aac gga aac aac tga ggc g**	**all 2'Ome bases,**	1072
SRT	ccaggaagcaagtggaggcgtgac**ggu**	**3' 3bases 2'Ome**	1073
FRET probe	Fcac(Z21)tgcttcgtgg		1074
probe	ccg tca cgc ctc ccg tta gct aNH2	3' Amine	1075
invader	caa acg agg ttt tcc aag gag ttg a		1076
stacker	**aga tcc ctg gat cag att tag aga gct c**	**all 2'Ome bases,**	1077
arrestor	**tag cta acg gaa aga ggc g**	**all 2'Ome bases,**	1078
SRT	ccaggaagcaagtggaggcgtgac**ggu**	**3' 3bases 2'Ome**	1079
FRET probe	Fcac(Z21)tgcttcgtgg		1080
probe	ccg tca cgc ctc ccg tta gNH2	3' Amine	1081
invader	aga ggt aca aac gag gtt ttc caa gga ga		1082
stacker	**cta aga tcc ctg gat cag att tag aga g**	**All 2'Ome**	1083
arrestor	**ctaacggaaacaagaggcg**	**All 2'Ome**	1084
SRT	ccaggaagcaagtggaggcgtgac**ggu**	**3' 3bases 2'Ome**	1085
FRET probe	Fcac(Z21)tgcttcgtgg		1086

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hIFN-γ			
probe	aac gag gcg cac ctt acc aat gcc taa gaa aag agt tNH2	3' Amine	1087
invader	tgc att att ttt ctg tca ctc tcc tct ttc caa tta		1088
arrestor	**aac tct ttt ctt agg cat ttt gaa ggt gcg NH2**	**all 2'Ome bases,3' Amine**	1089
SRT	cggaggaagcagttggtgcgcctc**gttaa**NH2	3' last 5 bases **2'Ome**	1090
FRET probe	Fcaac(Cy3)gcttcctccg		1091

FIG. 47A-14

probe	cag tca cgt ctc tct tca aaa tgc cta aga aaa gag tNH2	3' Amine	1092
invader	tct gca tta ttt ttc tgt cac tct cct ctt tcc aat a		1093
arrestor	**act ctt ttc tta ggc att ttg aag aga gac gNH2**	**all 2'Ome bases,3' Amine**	1094
SRT	**gctactgagatgaaggagacgtgactgtaNH2**	**all 2'Ome bases,3' Amine**	1095
FRET probe	Fcttc(Cy3)tctcagtagc		1096
mIFN-γ			
probe	aac gag gcg cac cct ttt gcc agt tcc NH2	3' Amine	1097
invader	gct ctg cag gat ttt cat gtc acc ata		1098
arrestor	**gag gaa ctg gca aaa ggg tgc gNH2**	**all 2'Ome bases,3' Amine**	1099
SRT	**gctactgagatgaaggagacgtgactgtaNH2**	**all 2'Ome bases,3' Amine**	1100
FRET probe	Fcttc(Cy3)tctcagtagc		1101
probe	aac gag gcg cac cct ttt gcc agt NH2	3' Amine	1102
invader	gct ctg cag gat ttt cat gtc acc ata		1103
stacker	**tcc tcc aga tat cca aga aga gac tc**	**all 2'Ome bases**	1104
arrestor	**act ggc aaa agg cgg gc**	**all 2'Ome bases**	1105
SRT	cgg agg aaag cag ttg gtg cgc ctc **guu aa NH2**	3' last 5 bases **2'Ome**	1106
SRT	cgg aag aaag cag ttg gtg cgc ctc **guu aa NH2**	3' last 5 bases **2'Ome**	1107
FRET probe	Fcaac(Cy3)gcttcctccg		1108
probe	gcc gca cgc cgc ctt ttg cca gt NH2	3' Amine	1109
invader	gct ctg cag gat ttt cat gtc acc ata		1110
stacker	**tcc tcc aga tat cca aga aga gac tc**	**all 2'Ome bases**	1111
arrestor	**act ggc aaa agg cgg gc**	**all 2'Ome bases**	1112
SRT	cgg agg aag cag ttg cgg cgt gcg gca NH2		1113
FRET probe	Fcaac(Cy3)gcttcctccg		1114
probe	aac gag gcg cac cct ttt gcc agt tc NH2	3' Amine	1115
invader	gct ctg cag gat ttt cat gtc acc ata		1116
stacker	**ctc cag ata tcc aag aag aga ctc**	**all 2'Ome bases**	1117
arrestor	**gaa ctg gca aaa ggg tgc g**	**all 2'Ome bases**	1118
SRT	cggaggaagcagttggtgcgcctc**gttaaNH2**	3' last5 bases 2'Ome	1119
FRET probe	Fcaac(Cy3)gcttcctccg		1120

FIG. 47A-15

hIL-8			
probe	ccg tca cgc ctc ctt ggc aaa act gca ccNH2	3' Amine	1121
probe	ccg tca cgc ctc ctt ggc aaa act gca cca NH2	3' Amine	1122
invader	ctt tat gca ctg aca tct aag ttc ttt agc act ca		1123
arrestor	**tgg tgc agt ttt gcc aag gag gcg NH2**	**all 2'Ome bases,3' Amine**	1124
arrestor	**tgg tgc agt ttt gcc aag gag gcg tg NH2**	**all 2'Ome bases,3' Amine**	1125
SRT	cggaagaagcagttggaggcgtgacg**gc**NH2	3'2 bases **2'Ome**, 3'Amine	1126
FRET probe	Fcaac(Cy3)gcttcctccg		1127
probe	ccg tca cgc ctc cat ctt cac tga ttc ttg gNH2	3' Amine	1128
probe	ccg tca cgc ctc cat ctt cac tga ttc ttg gaNH2	3' Amine	1129
invader	agt gtt gaa gta gat ttg ctt gaa gtt tca ctg ga		1130
stacker	**gat acc aca gag aat gaa tttt**	**all 2'Ome bases**	1131
arrestor	**tcc aag aat cag tga aga tgg agg cg NH2**	**all 2'Ome bases,3' Amine**	1132
arrestor	**tcc aag aat cag tga aga tgg agg cgt gNH2**	**all 2'Ome bases,3' Amine**	1133
arrestor	**g aat cag tga aga tgg agg cg**	**all 2'Ome bases**	1134
SRT	cggaagaagcagttggaggcgtgacg**gc**NH2	3'2 bases **2'Ome**, 3'Amine	1135
FRET probe	Fcaac(Cy3)gcttcctccg		1136
probe	ccg tca cgc cct tgg ctc aat ttt gct NH2	3' Amine	1137
invader	cca ttc aat tcc tga aat taa agt tcg gat att ctc ttg gca		1138
invader	**cc tga aat ta**a agt tcg gat att ctc ttg gca	**5' 10 bases are 2'Ome**	1139
invader	cc tga aat taa agt tcg gat att ctc ttg gca		1140
arrestor	**agc aaa att gag cca agg gag gcg NH2**	**all 2'Ome bases,3' Amine**	1141
arrestor	**agc aaa att gag cca agg gag gcg tgNH2**	**all 2'Ome bases,3' Amine**	1142
SRT	cggaagaagcagttggaggcgtgacg**gc**NH2	3'2 bases **2'Ome**, 3'Amine	1143
FRET probe	Fcaac(Cy3)gcttcctccg		1144
probe	ccg tca cgc ctc cat ctt cac tga ttc ttg NH2	3' Amine	1145
invader	ttc tag caa acc cat tca att cct gaa att aaa gtt cgg ata ttc ta		1146
invader	**cc cat tca at**t cct gaa att aaa gtt cgg ata ttc ta	5' 10 bases **2'Ome**	1147
invader	cc cat tca att cct gaa att aaa gtt cgg ata ttc ta		1148
arrestor	**cca agg gcc aag gag gcg tNH2**		1149
SRT	cggaagaagcagttggaggcgtgacg**gc**NH2	3'2 bases **2'Ome**, 3'Amine	1150
FRET probe	Fcaac(Cy3)gcttcctccg		1151

FIG. 47A-16

probe	ccg tca cgc ctc cat ctt cac tga ttc NH2	3' Amine	1152
invader	agt gtt gaa gta gat ttg ctt gaa gtt tca ctg ga		1153
stacker	**ttg gat acc aca gag aat gaa tt**	**all 2'Ome bases**	1154
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	1155
FRET probe	Fcaac(Cy3)gcttcctccg		1156
probe	ccg tca cgc ctc cat ctt cac tga tt NH2	3' Amine	1157
invader	agt gtt gaa gta gat ttg ctt gaa gtt tca ctg ga		1158
stacker	**ctt gga tac cac aga gaa tga att**		1159
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	1160
FRET probe	Fcaac(Cy3)gcttcctccg		1161
probe	ccg tca cgc ctc cat ctt cac tga ttc ttg NH2	3' Amine	1162
invader	agt gtt gaa gta gat ttg ctt gaa gtt tca ctg ga		1163
helper	**ata-cca-cag-aga-atg-aat-ttt-ttt-atg**	**all 2'Ome bases**	1164
arrestor	**tcc aag aat cag tga aga tgg agg cgt gNH2**	**all 2'Ome bases, 3' Amine**	1165
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	1166
FRET probe	Fcaac(Cy3)gcttcctccg		1167
SRT	cggaagaagcagttggtgatctcggcggNH2	3' Amine	1168
FRET probe	Fcaac(Cy3)gcttcctccg		1169
SRT	cggaagaagcagttggaggcgtgacggtNH2	3'base **2'Ome**, 3'Amine	1170
FRET probe	Fcaac(Cy3)gcttcctccg		1171
SRT	ccaggaagcaagtggaggcgtgac**ggu**	**3' 3bases 2'Ome**	1172
FRET probe	Fcac(Z21)tgcttcgtgg		1173
SRT	cggaggaagcagttggtgatctcggc**gg**NH2	3' 2 last base **2' Ome**, 3' Amine	1174
FRET probe	Fcaac(Cy3)gcttcctccg		1175
SRT	cggaagaagcagttggaggcgtgacg**gc**NH2	3'2 bases **2'Ome**, 3'Amine	1176
FRET probe	Fcaac(Cy3)gcttcctccg		1177
SRT	ccaggaagcaagtggtgcgcctcg**ttt**	3' last 3 bases **2'Ome**	1178
FRET probe	Fcac(Z21)tgcttcgtgg		1179

FIG. 47A-17

SRT	cggaggaagcagttggtgcgcctc**gttaaNH2**	3' last5 bases 2'Ome	1180
FRET probe	Fcaac(Cy3)gcttcctccg		1181
SRT	cggaggaagcggttggtgatctcggcgg**ca**NH2	3' Last 2bases 2'Ome, 3' Amine	1182
FRET probe	Fcaac(Cy3)gcttcctccg		1183
SRT	gctactgagatgaaggagacgtgactgtaNH2	3' Amine	1184
FRET probe	Fcttc(Cy3)tctcagtagc		1185
SRT	ccaggaagcagttggaggcgtgacgg**tNH2**	3' 2 bases **2'Ome**, 3'Amine	1186
FRET probe	Fcaac(Cy3)gcttcgtgg		1187
h3A4 probe	agg agc cac tcc att gga tga agc		1188
h3A4 invader	atg tac aga atc ccc ggt tat tta tgc aga		1189
Capture Sequence			
Set 1			
h3A4 probe	gtg gcg tat cac aga caa tga gag		1190
h3A4 invader	cct cct tta tat tcc caa gta taa cac tct aa		1191
Capture Sequence			
Set 2/Set 3			
h3A4 probe	AAC GAG GCG CAC CAC AGA CAA TGA GAG		1192
h3A4 arrestor	**CTCTCATTGTCTGTGGTGCG**-NH2		1193
h3A4 invader	cct cct tta tat tcc caa gta taa cac tct aa		1194
h3A4 stacking oligo	agctcaatgcatgtacagaatccccgg		1195
h3A4 stacking oligo	**agctcaatgcatgtacagaatccccgg**		1196
SRT			
FRET Oligo			
Set 4			
h3A4 probe	aac gag gcg cac cac aga caa tga gag ag-NH2		1197
h3A4 arrestor	**ctc tct cat tgt ctg tgg tgc g-NH2**		1198
h3A4 invader	cct cct tta tat tcc caa gta taa cac tct aa		1199
h3A4 stacking oligo	**ctc aat gca tgt aca gaa tcc ccg gtt**		1200

FIG. 47A-18

SRT FRET Oligo		
Set 5		
h3A4 probe	aac gag gcg cac cac aga caa tga gag agc t-NH2	1201
h3A4 arrestor	**agc tct ctc att gtc tgt ggt gcg**-NH2	1202
h3A4 invader	cct cct tta tat tcc caa gta taa cac tct aa	1203
SRT FRET probe	FL-caa-c(cy3)g-ctt-cct-ccg	1204
Set 6		
h3A4 probe	aac gag gcg cac cac aga caa tga gag agc-NH2	1205
h3A4 arrestor	**gct ctc tca ttg tct gtg gtg cg**-NH2	1206
h3A4 invader	cct cct tta tat tcc caa gta taa cac tct aa	1207
SRT FRET probe	FL-caa-c(cy3)g-ctt-cct-ccg	1208
Set 7/Set 8		
h3A4 probe	aac gag gcg cac cac aga caa tga gag a-NH2	1209
h3A4 probe	aac gag gcg cac cac aga caa tga gag a	1210
h3A4 arrestor	**tct ctc att gtc tgt ggt gcg c**-NH2	1211
h3A4 stacking oligo	**gct caa tgc atg tac aga atc ccc ggt t**	1212
h3A4 invader	cct cct tta tat tcc caa gta taa cac tct aa	1213
SRT FRET Oligo		
Set 9		
h3A4 probe	aac gag gcg cac cac aga caa tga ga-NH2	1214
h3A4 arrestor	**tct cat tgt ctg tgg tgc gc**-NH2	1215
h3A4 invader	cct cct tta tat tcc caa gta taa cac tct aa	1216
h3A4 stacking oligo	gag ctc aat gca tgt aca gaa tcc ccg	1217
SRT FRET Oligo		

FIG. 47A-19

Set 1/Set 2		
h3A4 probe	AACGAGGCGCACCTCTTATCAGAGCTC	1218
h3A4 probe	AACGAGGCGCACCTCTTATCAGAGCTC-NH2	1219
h3A4 invader	ttg tgg agg aaa tta ttg aga aat gtt gat ta	1220
h3A4 arrestor	**GAGCTCTGATAAGAGGTGCG**-NH2	1221
SRT		
Set 1/ Set 2/ Set 3		
h3A4 probe	ccg tca cgc ctc gcc cca ca - NH2	1222
h3A4 arrestor	**tgt ggg gcg agg cg**	1223
h3A4 invader	cag cac agg ctg ttg acc atc ata aaa c	1224
h3A4 stacking oligo	**cuu-uuc-cau-acu-uuu-uau-gac-auu-c**	1225
h3A4 stacking oligo	ctt ttc cag act ttt tat gac att c	1226
h3A4 stacking oligo	**ctt ttc cag act ttt tat gac**	1227
SRT		
FRET		
Set 4/Set 5		
h3A4 probe	ccg tca cgc ctc gcc cca ca	1228
h3A4 probe	ccg tca cgc ctc gcc cca ca - HEX	1229
h3A4 invader	cag cac agg ctg ttg acc atc ata aaa c	1230
h3A4 stacking oligo	**cuu-uuc-cau-acu-uuu-uau-gac-auu-c**	1231
SRT		
FRET		
Set 6/ Set 7/ Set 8		
h3A4 probe	ccg tca cgc ctc gcc cca cc - NH2	1232
h3A4 probe	ccg tca cgc ctc gcc cca cg - NH2	1233
h3A4 probe	ccg tca cgc ctc gcc cca ct - NH2	1234
h3A4 arrestor	**tgt ggg gcg agg cg**	1235
h3A4 invader	cag cac agg ctg ttg acc atc ata aaa c	1236
h3A4 stacking oligo	**cuu-uuc-cau-acu-uuu-uau-gac-auu-c**	1237
SRT		
FRET		

Set 1

FIG. 47A-20

h3A4 probe	ccg tca cgc ctg atc ata aaa gcc c -NH2	1238
h3A4 arrestor	**ggg ctt tta tga tca ggc g**	1239
h3A4 invader	cag cac agg ctg ttg acc c	1240
h3A4 stacking oligo	**cac act ttt cca tac ttt tta tg**	1241
SRT		
FRET		
Set 2		
h3A4 probe	aac gag gcg cac cca ttg gat gaa g - NH2	1242
h3A4 arrestor	**ctt cat cca atg ggt gcg c**	1243
h3A4 invader	gta cag aat ccc cgg tta ttt atg cag ta	1244
h3A4 stacking oligo	**ccc atc ttc att tca gag**	1245
SRT		
FRET		
Set 1		
h3A5 probe	gtg gcg tat cgt gtc taa ttt caa g	1246
h3A5 invader	aat ggg ttt ttc tgg ttg aag aag tcc ttg a	1247
Capture Sequence		
Set 2/Set 3		
h3A5 probe	AACGAGGCGCACCGTGTCTAATTTCAAG	1248
h3A5 probe	AACGAGGCGCACCGTGTCTAATTTCAAGGG-Pi	1249
h3A5 arrestor	**CTTGAAATTAGACACGGTGCG**-NH2	1250
h3A5 invader	aat ggg ttt ttc tgg ttg aag aag tcc ttg a	1251
SRT		
FRET		
Set 4		
h3A5 probe	AACGAGGCGCACCGTGTCTAATTTCAAG	1252
h3A5 arrestor	**CTTGAAATTAGACACGGTGCG**-NH2	1253
h3A5 invader	aat ggg ttt ttc tgg ttg aag aag tcc ttg a	1254
h3A5 stacking oligo	ggg atc tgt gtt tct tta caa ggt	1255
SRT		
FRET		
Set 5		

FIG. 47A-21

h3A5 probe	AACGAGGCGCACCGTGTCTAATTTCAAG	1256
h3A5 arrestor	**ctt gaa att aga cac ggt tct c**	1257
h3A5 invader	ggt ttt tct ggt tga aga agt cct tga	1258
h3A5 stacking oligo	**ggg atc tct gtt tct**	1259
SRT		
FRET		
Set 6		
h3A5 probe	AACGAGGCGCACCGTGTCTAATTTCAAGGG-NH2	1260
h3A5 arrestor	**CCCTTGAAATTAGACACGGTGCG**-NH2	1261
h3A5 invader	aat ggg ttt ttc tgg ttg aag aag tcc ttg a	1262
SRT		
FRET probe	FL-caa-c(cy3)g-ctt-cct-ccg	1263
Set 7/Set 8		
h3A5 probe	aac gag gcg cac cgt gtc taa ttt caa gg-NH2	1264
h3A5 probe	aac gag gcg cac cgt gtc taa ttt caa gg	1265
h3A5 arrestor	**cct tga aat tag aca cgg tgc gc**-NH2	1266
h3A5 arrestor	**cct tga aat tag aca cgg tgc gc**	1267
h3A5 invader	aat ggg ttt ttc tgg ttg aag aag tcc ttg a	1268
h3A5 stacking oligo	gga tct gtg ttt ctt tac aag gtt tga agg ag	1269
SRT		
FRET		
Set 9		
h3A5 probe	aac gag gcg cac cgt gtc taa ttt caa-NH2	1270
h3A5 arrestor	**ttg aaa tta gac acg gtg cgc**-NH2	1271
h3A5 invader	aat ggg ttt ttc tgg ttg aag aag tcc ttg a	1272
h3A5 stacking oligo	ggg gat ctg tgt ttc ttt aca agg	1273
SRT		
FRET		
Set 10		
h3A5 probe	aac gag gcg cac cgt gtc taa ttt ca - NH2	1274
h3A5 arrestor	**tga aat tag aca cgg tgc gc**	1275
h3A5 invader	ggt ttt tct ggt tga aga agt cct tga	1276
h3A5 stacking oligo	**agg gga tct gtg ttt ct**	1277

FIG. 47A-22

SRT		
FRET		
Set 1		
h3A5 probe	tgg cgt atc tga ccc ttt ggg aat	1278
h3A5 invader	gaa gag cat aag ttg gaa tca cca cca ta	1279
Capture Sequence		
Set 1		
h3A5 probe	ata cgg ttg gtc ctc tca agt cta	1280
h3A5 invader	ccc cat tga ttt caa cat ctt tct tgc aac	1281
Capture Sequence		
Set 2/Set 3		
h3A5 probe	aac gag gcg cac gcg tgt cta att tc - NH2	1282
h3A5 arrestor	**gaa att aga cac gcg tgc gc**	1283
h3A5 invader	ggt ttt tct ggt tga aga agt cct tc	1284
h3A5 stacking oligo	**ccg ggg atc tgt gtt tc**	1285
SRT		
FRET		
h3A5 probe	ccg tca cgc ctc gcg tgt cta att tc -NH2	1286
h3A5 arrestor	**gaa att aga cac gcg agg cg**	1287
h3A5 invader	ggt ttt tct ggt tga aga agt cct tc	1288
h3A5 stacking oligo	**ccg ggg atc tgt gtt tc**	1289
SRT		
FRET		
Set 1		
h3A5 probe	aac gag gcg cag ttc ata cgt tcc -NH2	1290
h3A5 arrestor	**gga acg tat gaa ctg cgc**	1291
h3A5 invader	cca gca cag gga gtt gac ca	1292
h3A5 stacking oligo	**cca cat ttt tcc ata ctt t**	1293
SRT		
FRET		
Set 2		

FIG. 47A-23

h3A5 probe	ccg tca cgc ctg ttc ata cgt tcc -NH2	1294
h3A5 arrestor	**gga acg tat gaa cag gcg**	1295
h3A5 invader	cca gca cag gga gtt gac ca	1296
h3A5 stacking oligo	**cca cat ttt tcc ata ctt t**	1297
SRT		
FRET		

Set 1-Set 4		
h3A5 probe	aac gag gcg cac agt tga cct tca	1298
h3A5 probe	aac gag gcg cac agt tga cct tca	1299
h3A5 probe	aac gag gcg cac agt tga cct tca - HEX	1300
h3A5 arrestor	**tga agg tca act gtg cgc**	1301
h3A5 invader	gtg atg gcc agc aca ggg c	1302
h3A5 stacking oligo	**tac gtt ccc cac att ttt c**	1303
h3A5 stacking oligo	tac gtt ccc cac att ttt c	1304
SRT		
FRET		
Set 5		
h3A5 probe	ccg tca cgc ctc agt tga cct tca	1305
h3A5 arrestor	**tga agg tca act gag gcg**	1306
h3A5 invader	gtg atg gcc agc aca ggg c	1307
h3A5 stacking oligo	**tac gtt ccc cac att ttt c**	1308
SRT		
FRET		
Set 6		
h3A5 probe	aac gag gcg cac tcc tct caa gt -NH2	1309
h3A5 arrestor	**act tga gag gag tgc gc**	1310
h3A5 invader	cca ttg att tca aca tct ttc ttg caa ga	1311
h3A5 stacking oligo	**cta ata gca act ggg aat aat c**	1312
SRT		
FRET		
Set 7		
h3A5 probe	ccg tca cgc ctc tcc tct caa gt - NH2	1313
h3A5 arrestor	**act tga gag gag agg cg**	1314

FIG. 47A-24

h3A5 invader	cca ttg att tca aca tct ttc ttg caa ga	1315
h3A5 stacking oligo	**cta ata gca act ggg aat aat c**	1316
SRT		
FRET		
Set 8		
h3A5 probe	aac gag gcg cac agt tga cct tc - NH2	1317
h3A5 arrestor	**tga agg tca act gtg cgc**	1318
h3A5 invader	gtg atg gcc agc aca ggg c	1319
h3A5 stacking oligo	**ata cgt tcc cca cat ttt tc**	1320
SRT		
FRET		
Set 1		
h3A7 Probe	tgg cgt atc tgg att aaa tct taa aag	1321
h3A7 Invader	gac ttt tat tga gag aac gaa tgg atc taa a	1322
Capture Oliog		
Set 2		
h3A7 Primary Probe	AACGAGGCGCACTGGATTAAATCTTAAAAG	1323
h3A7 Invader	gac ttt tat tga gag aac gaa tgg atc taa a	1324
h3A7 Arrestor	**CTTTTAAGATTTAATCCAGTGCG**-NH2	1325
SRT		
FRET		
Set 3		
h3A7 Primary Probe	AACGAGGCGCACTGGATTAAATCTTAAAAG	1326
h3A7 Invader	gac ttt tat tga gag aac gaa tgg atc taa a	1327
h3A7 Arrestor	**CTTTTAAGATTTAATCCAGTGCG**-NH2	1328
h3A7 Stacking Oligo	**ctt ctt ggt gtt ttc ca**	1329
SRT		
FRET		
Set 4		
h3A7 Probe	agg agc cac tca tcc ctt gac t	1330
h3A7 Invader oligo	ctt agg gaa atc agg ctc cac tta cgg ta	1331
Capture Oligo		

FIG. 47A-25

Set 5/Set 6		
h3A7 Primary Probe	AACGAGGCGCACCTCATCCCTTGACT	1332
h3A7 Primary Probe	AACGAGGCGCACCTCATCCCTTGACT-NH2	1333
h3A7 Arrestor	**AGTCAAGGGATGAGGTGCG**-NH2	1334
h3A7 Invader oligo	ctt agg gaa atc agg ctc cac tta cgg ta	1335
SRT		
FRET		
Set 7 - Set 10		
h3A7 Primary Probe	aac gag gcg cac ctc atc cct tga c-NH2	1336
h3A7 Arrestor	**gtc aag gga tga ggt gcg c**-NH2	1337
h3A7 Invader oligo	ctt agg gaa atc agg ctc cac tta cgg ta	1338
h3A7 Stacking Oligo	tca gcc ttt aga aca atg ggt ttt tct gtt ag3'	1339
h3A7 Stacking Oligo	**tca gcc ttt aga aca atg ggt ttt tct g**	1340
h3A7 Stacking Oligo	**ctc agc** ctt tag aac aat ggg ttt ttc t	1341
h3A7 Stacking Oligo	**ctc agc ctt tag aac aat ggg ttt ttc t**	1342
SRT		
FRET		
Set 11		
h3A7 Primary Probe	aac gag gcg cac ctc atc cct tga-NH2	1343
h3A7 Primary Probe	aac gag gcg cac ctc atc cct tga c	1344
h3A7 Arrestor	**tca agg gat gag gtg cgc**-NH2	1345
h3A7 Invader oligo	ctt agg gaa atc agg ctc cac tta cgg ta	1346
h3A7 Stacking Oligo	ctc agc ctt tag aac aat ggg ttt ttc tgt tag	1347
SRT		
FRET		

Set 1		
h3A7 Probe	ata cgg ttg gta aag taa ttt gag gt	1348
h3A7 Invader	gaa gcc cgt ctt cat ttc agg gtt cta ttt c	1349
Capture Sequence		

FIG. 47A-26

Set 2		
h3A7 Primary Probe	AACGAGGCGCACGTAAAGTAATTTGAGGT	1350
h3A7 Invader	gaa gcc cgt ctt cat ttc agg gtt cta ttt c	1351
h3A7 Arrestor	**ACCTCAAATTACTTTACGTGCG**-NH2	1352
SRT		
FRET		
Set 3		
h3A7 Primary Probe	AACGAGGCGCACGTAAAGTAATTTGAGGT	1353
h3A7 Invader	gaa gcc cgt ctt cat ttc agg gtt cta ttt c	1354
h3A7 Arrestor	**ACCTCAAATTACTTTACGTGCG**-NH2	1355
h3A7 Stacking Oligo	**ctc tgg tgt tct ggg**	1356
SRT		
FRET		
Set 1		
h3A7 probe	ccg tca cgc ctc gtc ata aat acc cc - NH2	1357
h3A7 arrestor	**ggg gtc ttt atg acg agg cg**	1358
h3A7 invader	gcc agc ata ggc tgt tga cac	1359
h3A7 stacking oligo	**aga ctt ttc tat act ttt tat aac att c**	1360
SRT		
FRET		
Set 2 - Set 4		
h3A7 probe	aac gag gcg cac gtc ata aat acc cc -NH2	1361
h3A7 probe	aac gag gcg cac gtc ata aat acc cc	1362
h3A7 probe	aac gag gcg cac gtc ata aat acc cc - HEX	1363
h3A7 arrestor	**ggg gta ttt atg acg tgc gc**	1364
h3A7 invader	gcc agc ata ggc tgt tga cac	1365
h3A7 stacking oligo	**aga ctt ttc tat act ttt tat aac att c**	1366
SRT		
FRET		
Set 1		
h3A7 probe	ccg tca cgc ctc gat taa atc tta aaa gct t - NH2	1367
h3A7 arrestor	**aag ctt tta aga ttt aat cga ggc g**	1368
h3A7 invader	gac ttt tat tga gag aac gaa tgg atc taa tgc	1369

FIG. 47A-27

h3A7 stacking oligo	**ctt ggt gtt ttc cac aaa g**	1370
SRT		
FRET		
Set 2		
h3A7 probe	aac gag gcg cac gat taa atc tta aaa gct t -NH2	1371
h3A7 arrestor	**aag ctt tta aga ttt aat cgt gcg c**	1372
h3A7 invader	gac ttt tat tga gag aac gaa tgg atc taa tgc	1373
h3A7 stacking oligo	**ctt ggt gtt ttc cac aaa g**	1374
SRT		
FRET		
Set 1		
h3A7 probe	ccg tca cgc ctg tca tcc ctt g - NH2	1375
h3A7 arrestor	**caa ggg atg cac ggc g**	1376
h3A7 invader	gga aat cag gct cca ctt acg gtc a	1377
h3A7 stacking oligo	**act cag cct tta gaa caa tg**	1378
SRT		
FRET		
Set 1		
h3A7 probe	ccg tca cgc ctc taa agt aat ttg agg tc -NH2	1379
h3A7 arrestor	**gac ctc aaa tta ctt tag agg cg**	1380
h3A7 invader	cgt ctt cat ttc agg gtt cta ttt ga	1381
h3A7 stacking oligo	**tct ggt gtt ctg gg**	1382
SRT		
FRET		
Set 2		
h3A7 probe	aac gag gcg cac taa agt aat ttg agg tc - NH2	1383
h3A7 arrestor	**gac ctc aaa gga ctt tag tgc gc**	1384
h3A7 invader	cgt ctt cat ttc agg gtt cta ttt ga	1385
h3A7 stacking oligo	**tct ggt gtt ctg gg**	1386
SRT		
FRET		

FIG. 47A-28

Set 1		
r4A1 Probe	tgg-cgt-atc-tag-gct-ttg-ctt-cc	1387
r4A1 Invader	ttc atg tag tca ggg tca tag aca att aag a	1388
Capture Sequence		
Set 2		
r4A1 Primary Probe	AACGAGGCGCACTAGGCTTTGCTTCC	1389
r4A1 Arrestor	**GGAAGCAAAGCCTAGTGCG**-NH2	1390
r4A1 Arrestor	**gga agc aaa gcc tag tgc gc**-NH2	1391
r4A1 Invader	ttc atg tag tca ggg tca tag aca att aag a	1392
FRET Probe 1		
Set 3		
r4A1 Primary Probe	aac gag gcg cac tag gct ttg ctt ccc-NH2	1393
r4A1 Arrestor	**ggg aag caa agc cta gtg cgc**-NH2	1394
r4A1 Invader	ttc atg tag tca ggg tca tag aca att aag a	1395
SRT		
FRET Probe 1		
Set 4		
r4A1 Primary Probe	aac gag gcg cac tag gct ttg ctt c-NH2	1396
r4A1 Arrestor	**gaa gca aag cct agt gcg c**	1397
r4A1 Stacker	ccc aga acc atc gag gaa agg c	1398
r4A1 Invader	ttc atg tag tca ggg tca tag aca att aag a	1399
SRT		
FRET Probe 1		
Set 5		
r4A1 Primary Probe	aac gag gcg cac tag gct ttg ctt-NH2	1400
r4A1 Arrestor	aag caa agc cta gtg cgc-NH2	1401
r4A1 Invader	ttc atg tag tca ggg tca tag aca att aag a	1402
r4A1 Stacker	ccc cag aac cat cga gga aag g	1403
r4A1 Stacker	**ccc ca**g aac cat cga gg**a aag g**	1404
SRT		
FRET Probe 1		
Set 6		

FIG. 47A-29

r4A1 Primary Probe	aac gag gcg cac tag gct ttg ct-NH2	1405
r4A1 Primary Probe	aac gag gcg cac tag gct ttg ct - HEX	1406
r4A1 Probe	aac gag gcg cac tag gct ttg ct	1407
r4A1 Arrestor	**agc aaa gcc tag tgc gc**-NH2	1408
r4A1 Arrestor	**agc aaa gcc tag tgc gc**	1409
r4A1 Invader	ttc atg tag tca ggg tca tag aca att aag a	1410
r4A1 Stacker	tcc cca gaa cca tcg agg aaa gg	1411
r4A1 Stacker	**tcc cc**a gaa cca tcg agg **aaa gg**	1412
SRT		
FRET Probe 1		

Set 1		
r4A1 Probe	ata cgg ttg gtc ttg acc tgc c	1413
r4A1 Invader	agg aga tat gtt gaa aga ttt cta tag agg ac	1414
Capture Sequence		
Set 2		
r4A1 Primary Probe	AACGAGGCGCACGTCTTGACCTGCC	1415
r4A1 Arrestor	**GGCAGGTCAAGACGTGCG**-NH2	1416
r4A1 Invader	agg aga tat gtt gaa aga ttt cta tag agg ac	1417
SRT		
FRET Probe 1		
Set 3		
r4A1 Primary Probe	AACGAGGCGCACGTCTTGACCTGC-Pi	1418
r4A1 Arrestor	**GGCAGGTCAAGACGTGCG**-NH2	1419
r4A1 Invader	agg aga tat gtt gaa aga ttt cta tag agg ac	1420
SRT		
FRET Probe 1		

Set 1		
r4A1 Probe	tgg cgt atc tta gat gga gta agg a	1421
r4A1 Invader	att cct cat aat tca aaa ggg act tag tag gt	1422

FIG. 47A-30

Set 2		
r4A1 Primary Probe	AACGAGGCGCACTTAGATGGAGTAAGGA	1423
r4A1 Arrestor	**TCCTTACTCCATCTAAGTGCG**-NH2	1424
SRT		
FRET Probe 1		
Set 1		
r4A1 Primary Probe	aac gag gcg cac tgg ata ccc ttg gg-NH2	1425
r4A1 Arrestor	**ccc aag ggt atc cag tgc gc**-NH2	1426
r4A1 Invader	ggt gga gac cat aaa tgg aga gtg tga cta	1427
SRT		
FRET Probe 1		
Set 1		
r4A2 Probe	aac gag gcg cac agg tgt ctg gag taa aag-NH2	1428
r4A2 Arrestor	**ctt tta ctc cag aca cct gtg cgc**-NH2	1429
r4A2 Invader	gtc cac gca caa gct ggg ac	1430
SRT		
FRET Probe 1		
Set 1		
r4A2 Probe	aac gag gcg cac aga agg ccc ctt-NH2	1431
r4A2 Arrestor	**aag ggg cct tct gtg cgc**-NH2	1432
r4A2 Invader	cct tga aca gca cca gaa ata gac tga gca c	1433
r4A2 stacking oligo	gga aga acc cag aga cac cat cc	1434
SRT		
FRET Probe 1		
Set 2		
r4A2 Probe	ccg tca cgc ctc aga agg ccc ctt-NH2	1435
r4A2 Arrestor	**aag ggg cct tct gag gcg**-NH2	1436
r4A2 Invader	cct tga aca gca cca gaa ata gac tga gca c	1437
SRT		
FRET Probe 1		
Set 3		
r4A2 Probe	aac gag gcg cac aga agg ccc ctt g-NH2	1438

FIG. 47A-31

r4A2 Arrestor	**caa ggg gcc ttc tgt gcg c**-NH2	1439
r4A2 Invader	cct tga aca gca cca gaa ata gac tga gca c	1440
SRT		
FRET Probe 1		
Set 4		
r4A2 Probe	aac gag gcg cac aga agg ccc ctt gg-NH2	1441
r4A2 Probe	aac gag gcg cac aga agg ccc ctt	1442
r4A2 Probe	aac gag gcg cac aga agg ccc ctt - HEX	1443
r4A2 Arrestor	**cca agg ggc ctt ctg tgc gc**-NH2	1444
r 4A2 Arrestor	**aag ggg cct tct gtg cgc**	1445
r4A2 Invader	cct tga aca gca cca gaa ata gac tga gca c	1446
SRT		
FRET Probe 1		
Set 1		
r4A3 Probe	aac gag gcg cac ttg aca gag tcc gc-NH2	1447
r4A3 Arrestor	**gcg gac tct gtc aag tgc gc**-NH2	1448
r4A3 Invader	gct tct ccc att tgt cta gca tta taa	1449
SRT		
FRET Probe 1		
Set 2		
r4A3 Probe	aac gag gcg cac ttg aca gag tcc g-NH2	1450
r4A3 Arrestor	**cgg act ctg tca agt gcg c**-NH2	1451
r4A3 Invader	gct tct ccc att tgt cta gca tta taa	1452
r4A3 stacking oligo	cca tga ttt tga cat agg gtt tga gga tg	1453
SRT		
FRET Probe 1		
Set 3		
r4A3 Probe	aac gag gcg cac ttg aca gag tcc-NH2	1454
r4A3 Probe	aac gag gcg cac ttg aca gag tcc	1455
rCYP 4A3 Probe	aac gag gcg cac ttg aca gag tcc - HEX	1456
r4A3 Arrestor	**gga ctc tgt caa gtg cgc**-NH2	1457
rCYP 4A3 Arrestor	**gga ctc tgt caa gtg cgc**	1458
r4A3 Invader	gct tct ccc att tgt cta gca tta taa	1459

FIG. 47A-32

r4A3 stacking oligo	gcc atg att ttg aca tag ggt ttg agg atg	1460
SRT		
FRET Probe 1		

Set 1		
r2B1 probe	cgg agc ctc tgc ggt cat caa g	1461
r2B1 invader	tgg ata act gca tca gtg tat ggc att tta a	1462
Capture Sequence		
Set 2/ Set 3		
r2B1 probe	gtg-gcg-tat-ctg-cgg-tca-tca-ag	1463
r2B1 probe	gtg-gcg-tat-ctg-cgg-tca-tca-a	1464
r2B1 invader	tgg ata act gca tca gtg tat ggc att tta a	1465
Capture Sequence		
Set 4		
r2B1 probe	tg-gcg-tat-ctg-cgg-tca-tca-a	1466
r2B1 invader	tgg ata act gca tca gtg tat ggc att tta a	1467
Capture Sequence		
Set 5 - Set 7		
r2B1 probe	aac-gag-gcg-cac-ctg-cgg-tca-tca-a	1468
r2B1 arrestor	**ttg-atg-acc-gca-ggt-gcg-cc**-NH2	1469
r2B1 arrestor	**ttg-atg-acc-gca-ggt-gcg-cc**-Pi	1470
r2B1 arrestor	**ttg-atg-acc-gca-ggt-gcg-cc**-OH	1471
r2B1 invader	tgg ata act gca tca gtg tat ggc att tta a	1472
SRT		
FRET		
Set 8		
r2B1 probe	aac-gag-gcg-cac-ctg-cgg-tca-tca-a	1473
r2B1 arrestor	**ttg-atg-acc-gca-ggt-gcg-cc**-Pi	1474
r2B1 invader	tgg ata act gca tca gtg tat ggc att tta a	1475
r2B1 stacker	ggg ttg gta gcc tgt gtg agc cga t	1476
SRT		
FRET		

FIG. 47A-33

Set 9		
r2B1 probe	aac-gag-gcg-cac-ctg-cgg-tca-tca-a-NH2	1477
r2B1 arrestor	**ttg-atg-acc-gca-ggt-gcg-NH2**	1478
r2B1 invader	tgg ata act gca tca gtg tat ggc att tta a	1479
SRT		
FRET		
Set 10		
r2B1 probe	ggc-aac-gag-gca-cac-ctg-cgg-tca-tca-ag-Pi	1480
r2B1 arrestor	**ttg-atg-acc-gca-ggt-gcg-cc**-Pi	1481
r2B1 invader	tgg ata act gca tca gtg tat ggc att tta a	1482
SRT		
FRET		
Set 11		
r2B1 probe	aac gag ggg cac ctg cgg tca tca ag-NH2	1483
r2B1 arrestor	ctt gat gac cgc agg tgc c-NH2	1484
r2B1 invader	tgg ata act gca tca gtg tat ggc att tta a	1485
SRT		
FRET		
Set 12		
r2B1 probe	aac gag gcg cac ctg cgg tca tca agg-NH2	1486
r2B1 arrestor	**cct tga tga ccg cag gtg cg**-NH2	1487
r2B1 invader	tgg ata act gca tca gtg tat ggc att tta a	1488
SRT		
FRET		
Set 13		
r2B1 probe	atg acg tga cag acc tgc ggt cat caa g-NH2	1489
r2B1 arrestor	**ctt gat gac cgc agg tct gt**-NH2	1490
r2B1 invader	tgg ata act gca tca gtg tat ggc att tta a	1491
SRT		
FRET		

FIG. 47A-34

Set 14		
r2B1 probe	aac gag gcg cac ctg agg tca tca a-NH2	1492
r2B1 arrestor	**ttg atg acc tca ggt gcg**-NH2	1493
r2B1 invader	tgg ata act gca tca gtg tat ggc att tta a	1494
SRT		
FRET		
Set 15		
r2B1 probe	cag tca cgt ctc ctg cgg tca tca ag-NH2	1495
r2B1 arrestor	**ctt gat gac cgc agg aga cg**-NH2	1496
r2B1 invader	tgg ata act gca tca gtg tat ggc att tta a	1497
SRT		
FRET		
Set 16		
r2B1 probe	cag tca cgt ctc act gcg gtc atc aag-NH2	1498
r2B1 invader	gtg gat aac tgc atc agt gta tgg cat ttt c	1499
r2B1 arrestor	**ctt gat gac cgc agt gag acg**-NH2	1500
SRT		
FRET		
Set 17		
r2B1 probe	cag tca cgt ctc act gcg gtc atc aa-NH2	1501
r2B1 arrestor	**ttg atg acc gca gtg aga cg**-NH2	1502
r2B1 invader	gtg gat aac tgc atc agt gta tgg cat ttt c	1503
r2B1 stacker	ggg ttg gta gcc tgt gtg agc cga t	1504
SRT		
FRET		
Set 18		
r2B1 probe	cag tca cgt ctc act gcg gtc atc a-NH2	1505
r2B1 arrestor	**tga tga ccg cag tga gac g**-NH2	1506
r2B1 invader	gtg gat aac tgc atc agt gta tgg cat ttt c	1507
r2B1 stacker	agg gtt ggt agc ctg tgt gag ccg a	1508
SRT		
FRET		

FIG. 47A-35

Set 19		
r2B1 probe	cag tca cgt ctc act gcg gtc atc aag-NH2	1509
r2B1 arrestor	**ctt gat gac cgc agt gag acg**-NH2	1510
r2B1 invader	gtg gat aac tgc atc agt gta tgg cat ttt c	1511
r2B1 stacker	ggt tgg tag cct gtg tga gcc gat c	1512
SRT		
FRET		
Set 20		
r2B1 probe	cag tca cgt ctc act gcg gtc at-NH2	1513
r2B1 arrestor	**atg acc gca gtg aga cg**-NH2	1514
r2B1 invader	gtg gat aac tgc atc agt gta tgg cat ttt c	1515
r2B1 stacker	caa ggg ttg gta gcc tgt gtg agc c	1516
SRT		
FRET		
Set 21		
r2B1 probe	ccg tca cgc ctc act gcg gtc atc a-NH2	1517
r2B1 arrestor	**tga tga ccg cag tga ggc g**-NH2	1518
r2B1 invader	gtg gat aac tgc atc agt gta tgg cat ttt c	1519
r2B1 stacker	agg gtt ggt agc ctg tgt gag ccg a	1520
SRT		
FRET		
Set 22		
r2B1 probe	ccg tca cgc ctc act gcg gtc atc-NH2	1521
r2B1 arrestor	**gat gac cgc agt gag gcg**-NH2	1522
r2B1 invader	gtg gat aac tgc atc agt gta tgg cat ttt c	1523
r2B1 stacker	aag ggt tgg tag ccg gtg tg	1524
Set 23		
r2B1 probe	ccg tca cgc ctc act gcg gtc at-NH2	1525
r2B1 probe	ccg tca cgc ctc act gcg gtc at	1526
r2B1 arrestor	**atg acc gca gtg agg cg**-NH2	1527
r2B1 invader	gtg gat aac tgc atc agt gta tgg cat ttt c	1528
r2B1 stacker	**caa** ggg ttg gta gcc tgt gtg agc c	1529
SRT		

FIG. 47A-36

FRET		
Set 1		
r2B1 invader	atg gtg tct ttg gtg act ctg tgt ggt aca	1530
r2B1 probe	aac-gag-gcg-cac-tcc-aat-agg-gac-aag	1531
r2B1 arrestor	**ctt-gtc-cct-att-gga-gtg-cgc-c**	1532
SRT		
FRET		
Set 1		
r2B1 probe	gcg gcg tac agc cgg tgt gag c	1533
r2B1 invader	cat ttt act gcg gtc atc aag ggt tgg tc	1534
Capture Sequence		
r2B1 probe	tgg cgt atg agc cgg tgt gag c	1535
r2B1 invader	cat ttt act gcg gtc atc aag ggt tgg tc	1536
Capture Sequence		
Set 1		
r2B2 invader	gga tga ctg cat cag tgt atg gca ttt tgc	1537
r2B2 probe	aac-gag-gcg-cac-gta-cga-tca-tca-agg	1538
r2B2 arrestor	**cct-tga-tga-tcg-tac-gtg-cgc-c**-NH2	1539
SRT		
FRET		
Set 1		
r2B2 invader	atg gtg tct ttg gtg act ctg tgt ggt aac	1540
r2B2 probe	tgg cgt atg acc aat tgg ggc aa	1541
r2B2 stacker	gat ctg caa atc tct gaa tct cgt gga tg	1542
r2B2 invader stacker	tct tgg aga gca ggt acc ctc gga ac	1543
Set 2		
r2B2 probe	tgg cgt atg acc aat tgg ggc aag	1544
r2B2 invader	atg gtg tct ttg gtg act ctg tgt ggt aac	1545
r2B2 stacker	atc tgc aaa tct ctg aat ctc gtg gat ga	1546
r2B2 invader stacker	tct tgg aga gca ggt acc ctc gga ac	1547

FIG. 47A-37

Set 3		
r2B2 probe	aac-gag-gcg-cac-acc-aat-tgg-ggc-aag	1548
r2B2 probe	aac gac gcg cac acc aat tgg ggc aag	1549
r2B2 arrestor	**ctt-gcc-cca-att-ggt-gtg-cgc-c**-NH2	1550
r2B2 invader	atg gtg tct ttg gtg act ctg tgt ggt aac	1551
SRT		
FRET		
Set 4		
r2B2 probe	aac-gag-gcg-cac-acc-aat-tgg-ggc-aag-Pi	1552
r2B2 arrestor	**ctt-gcc-cca-att-ggt-gtg-cgc-c**-Pi	1553
r2B2 invader	atg gtg tct ttg gtg act ctg tgt ggt aac	1554
SRT		
FRET		
Set 5		
r2B2 arrestor	**ctt gcc cca att ggt gtg cg**-NH2	1555
r2B2 probe	aac-gag-gcg-cac-acc-aat-tgg-ggc-aag-NH2	1556
r2B2 invader	atg gtg tct ttg gtg act ctg tgt ggt aac	1557
r2B2 stacker	atc tgc aaa tct ctg aat ctc gtg gat ga	1558
SRT		
FRET		
Set 6		
r2B2 probe	ggc-aac-gag-gca-cac-caa-ttg-ggg-caa-g	1559
r2B2 arrestor	**ctt-gcc-cca-att-ggt-gtg-cgc-c**-NH2	1560
r2B2 invader	atg gtg tct ttg gtg act ctg tgt ggt aac	1561
SRT		
FRET		
Set 7		
r2B2 probe	aac gag gcg cac acc aat tgg ggc aag atc-NH2	1562
r2B2 arrestor	**gat ctt gcc cca att ggt gtg cg**-NH2	1563
r2B2 invader	atg gtg tct ttg gtg act ctg tgt ggt aac	1564
SRT		
FRET		

FIG. 47A-38

Set 8		
r2B2 probe	aac gag gcg cac acc aat tcg ggc aag-NH2	1565
r2B2 arrestor	**ctt gcc cga att ggt gtg cg**-NH2	1566
r2B2 invader	atg gtg tct ttg gtg act ctg tgt ggt aac	1567
r2B2 stacker	atc tgc aaa tct ctg aat ctc gtg gat ga	1568
SRT		
FRET		
Set 9		
r2B2 probe	cag tca cgt ctc atg gtg gcc tgt g-NH2	1569
r2B2 invader	gta tgg cat ttt ggt acg atc atc aag ggc	1570
r2B2 arrestor	**cac agg cca cca tga gac g**-NH2	1571
SRT		
FRET		
Set 10		
r2B2 probe	cag tca cgt ctc aga gcc aat cac ctg-NH2	1572
r2B2 invader	cga tca tca agg gat ggt ggc ctg tgc	1573
r2B2 arrestor	**cag gtg att ggc tct gag acg**-NH2	1574
r2B2 stacker	atc aat ctc ctt ttg gac ttt ctc tgc g	1575
SRT		
FRET		
Set 11		
r2B2 probe	cag tca cgt ctc aga gcc aat cac ct-NH2	1576
r2B2 invader	cga tca tca agg gat ggt ggc ctg tgc	1577
r2B2 arrestor	**agg tga ttg gct ctg aga cg**-NH2	1578
r2B2 stacker	gat caa tct cct ttt gga ctt tct ctg c	1579
SRT		
FRET		
Set 12		
r2B2 probe	FAM-cag tca cgt ctc aga gcc aat cac ct-NH2	1580

FIG. 47A-39

Set 13 / Set 14		
r2B2 probe	cag tca cgt ctc aga gcc aat cac c-NH2	1581
r2B2 arrestor	**ggt gat tgg ctc tga gac g**-NH2	1582
r2B2 invader	cga tca tca agg gat ggt ggc ctg tgc	1583
r2B2 stacker	gat caa tct cct ttt gga ctt tct ctg c	1584
r2B2 stacker	tga tca atc tcc ttt tgg act ttc tct gc	1585
SRT		
FRET		
Set 15		
r2B2 probe	cag tca cgt ctc aga gcc aat cac-NH2	1586
r2B2 arrestor	**gtg att ggc tct gag acg**-NH2	1587
r2B2 stacker	ctg atc aat ctc ctt ttg gac ttt ctc tgc g	1588
r2B2 invader	cga tca tca agg gat ggt ggc ctg tgc	1589
SRT		
FRET		
Set 16		
r2B2 probe	cag tca cgt ctc aga ggc aat cac ct-NH2	1590
r2B2 arrestor	**agg tga ttg cct ctg aga cg**-NH2	1591
r2B2 invader	cga tca tca agg gat ggt ggc ctg tgc	1592
r2B2 stacker	gat caa tct cct ttt gga ctt tct ctg c	1593
SRT		
FRET		
Set 17		
r2B2 probe	cag tca cgt ctc aga ggc aat cac ctg-NH2	1594
r2B2 arrestor	**cag gtg att gcc tct gag acg**-NH2	1595
r2B2 invader	cga tca tca agg gat ggt ggc ctg tgc	1596
r2B2 stacker	atc aat ctc ctt ttg gac ttt ctc tgc g	1597
SRT		
FRET		
Set 18		
r2B2 probe	ccg tca cgc ctc aga gcc aat cac ct-NH2	1598
r2B2 arrestor	**agg tga ttg gct ctg agg cg**-NH2	1599
r2B2 invader	cga tca tca agg gat ggt ggc ctg tgc	1600

FIG. 47A-40

r2B2 stacker	gat caa tct cct ttt gga ctt tct ctg c	1601
SRT		
FRET		
Set 19		
r2B2 probe	ccg tca cgc ctc aga gcc aat cac c-NH2	1602
r2B2 arrestor	**ggt gat tgg ctc tga ggc g**-NH2	1603
r2B2 invader	cga tca tca agg gat ggt ggc ctg tgc	1604
r2B2 stacker	tga tca atc tcc ttt tgg act ttc tct gc	1605
SRT		
FRET		
Set 20-21		
r2B2 probe	ccg tca cgc ctc aga gcc aat cac-NH2	1606
r2B2 probe	ccg tca cgc ctc aga gcc aat cac	1607
r2B2 arrestor	**gtg att ggc tct gag gcg**-NH2	1608
r2B2 invader	cga tca tca agg gat ggt ggc ctg tgc	1609
r2B2 stacker	**ctg** atc aat ctc ctt ttg gac ttt ctc tgc g	1610
Set 22		
r2B2 probe	cag tca cgt ctc atg gtc aaa gta ctg tgg-NH2	1611
r2B2 invader	gga agt gct cag gat tga agg tgt ctg gc	1612
r2B2 arrestor	**cca cag tac ttt gac cat gag acg**-NH2	1613
SRT		
FRET		
Set 23		
r2B2 probe	aac gag gcg cac atg gtc aaa gta ctg tgg-NH2	1614
r2B2 arrestor	**cca cag tac ttt gac cat gtg cgc**-NH2	1615
r2B2 invader	gga agt gct cag gat tga agg tgt ctg gc	1616
SRT		
FRET		

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r2B2 probe	cat acg gtt ggg cct gtg aga gc	1617
r2B2 invader	cat ttt ggt acg atc atc aag gga tgg tc	1618

FIG. 47A-41

r3A1 probe	agg agc cac ggg tcc caa atc	1619
r3A1 probe	FL-agg agc cac ggg tcc caa atc	1620
r3A1 invader	tcc cct gtt tct tga aaa gtc cat gtg tga	1621
r3A1 probe	F-tcg cgt agt cgg gtc cca aat c	1622
r3A1 probe	cat-ctt-cgc-gga-cgg-gtc-cca-aat-c	1623
r3A1 arrestor	**gat-ttg-gga-ccc-ggt-gcg-cc**-NH2	1624
r3A1 probe	aac-gag-gcg-cac-cgg-gtc-cca-aat-c-NH2	1625
r3A1 probe	cat-ctt-cgc-gga-cgg-gtc-cca-aat-c - NH2	1626
r3A1 arrestor	**gga ttt ggg acc cgt ccg cga** - NH2	1627
r3A1 arrestor	**gga-ttt-ggg-acc-cgt-ccg-cg** -NH2	1628
r3A1 arrestor	**gga ttt ggg acc cgt ccg c -** NH2	1629
r3A1 arrestor	**gga ttt ggg acc cgt ccg** - NH2	1630
r3A1 arrestor	**gat-ttg-gga-ccc-ggt-gcg-c**-NH2	1631
r3A1 arrestor	**gat-ttg-gga-ccc-ggt-gcg**-NH2	1632
r3A1 arrestor	**gat-ttg-gga-ccc-ggt-gc**-NH2	1633
r3A1 arrestor	**gat-ttg-gga-ccc-ggt-gcg-cct**-NH2	1634
r3A1 arrestor	**gat-ttg-gga-ccc-ggt-gcg-cct-c-NH2**	1635
r3A1 probe		
r3A1 probe		
r3A1 probe	aac gag gcg cac cgg gtc cca aat c-Pi	1636
r3A1 invader	tcc cct gtt tct tga aaa gtc cat gtg tga	1637
r3A1 probe	aac gag gcg cac cgg gtc cca aat c-NH2	1638
r3A1 arrestor	**gat ttg gga ccc ggt gcg**-NH2	1639
r3A1 probe	aac gag gcg cac cgg gtc cca aat c-NH2	1640
r3A1 arrestor	**gga ttt ggg acc cgg tgc gc**-NH2	1641
r3A1 probe	aac gag gcg cac cgg gtc cca aat-NH2	1642
r3A1 arrestor	**att tgg gac ccg gtg cgc**-NH2	1643
r3A1 stacker	ccg tag agg agc acc agg acg	1644
r3A1 probe	aac gag gcg cac cgg gtc cca aa-NH2	1645
r3A1 arrestor	**ttt ggg acc cgg tgc gc**-NH2	1646
r3A1 stacker	tcc gta gag gag cac cag ga	1647
r3A1 probe	cag tca cgt ctc cgg gtc cca aa-NH2	1648
r3A1 arrestor	**ttt ggg acc cgg aga cg**-NH2	1649
r3A1 stacker	**tcc** gta gag gag cac cag ga	1650
r3A1 probe	ccg tca cgc ctc cgg gtc cca aa-NH2	1651

FIG. 47A-42

r3A1 arrestor	**ttt ggg acc cgg agg cg**-NH2	1652
r3A1 stacker	**tcc gta** gag gag cac cag ga	1653
r3A1 stacker	**tcc gta gag gag cac cag ga**	1654
r3A1 probe	aac gag gcg cac cgg gtc cca-NH2	1655
r3A1 arrestor	**tgg gac ccg gtg cgc**-NH2	1656
r3A1 probe	ccg tca cgc ctc cgg gtc cca-NH2	1657
r3A1 arrestor	**tgg gac ccg gag gcg**-NH2	1658
r3A1 stacker	aat ccg tag agg agc acc agg	1659
r3A1 probe	aac gag gcg cac cgg gtc cca	1660

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r3A2 invader	ttc ctt gtt tct taa aaa ttc cat gtc taa	1661
r3A2 invader	att ttt cga tac ttt tta tag cac tcc atc	1662
r3A2 probe	tgg cgt atc tgg gtt cca agt c	1663
r3A2 probe	aac gag gcg cac gtc aaa tct ccc taa	1664
r3A2 probe	aac-gag-gcg-cac-tgg-gtt-cca-agt-c	1665
r3A2 arrestor	**tta ggg aga ttt gac gtg cgc c** - NH2	1666
r3A2 arrestor	**gac-ttg-gaa-ccc-agt-gcg-cc**-NH2	1667
r3A2 probe	aac gac gcg cac tgg gtt cca agt c	1668
r3A2 probe	aac-gag-gcg-cac-tgg-gtt-cca-agt-c-Pi	1669
r3A2 arrestor	**gac ttg gaa ccc agt gcg**-NH2	1670
r3A2 probe	aac gag gcg cac tgg gtt cca agt cg-NH2	1671
r3A2 arrestor	**cga ctt gga acc cag tgc gc**-NH2	1672
r3A2 probe	aac gag gcg cac aac cat caa gtt cta ta-NH2	1673
r3A2 invader	gga atc gtc act act gac cct ttg ggt ata aac ac	1674
r3A2 stacker	tct ttt tta cag act ctc tca agt cta tta cc	1675
r3A2 arrestor	**tat aga act tga tgg ttg tgc gc**-NH2	1676
r3A2 probe	aac gag gcg cac aac cat caa gtt cta-NH2	1677
r3A2 stacker	tat ctt ttt tac aga ctc tct caa gtc tat tac c	1678
r3A2 arrestor	**tag aac ttg atg gtt gtg cgc**-NH2	1679
r3A2 probe	cag tca cgt ctc ctc ggc agg gc-NH2	1680
r3A2 invader	cac aat atc gta ggt agg agg tgc ctt aa	1681
r3A2 arrestor	**gcc ctg ccg agg aga cg**-NH2	1682
r3A2 probe	cag tca cgt ctc ctc ggc agg g-NH2	1683
r3A2 stacker	ccc cat cga tct cct cct g	1684

FIG. 47A-43

r3A2 arrestor	**ccc tgc cga gga gac g**-NH2	1685
r3A2 probe	cag tca cgt ctc ctc ggc agg-NH2	1686
r3A2 stacker	gcc cca tcg atc tcc tcc	1687
r3A2 arrestor	**cct gcc gag gag acg**-NH2	1688
r3A2 probe	cag tca cgt ctc ctc ggc ag-NH2	1689
r3A2 stacker	ggc ccc atc gat ctc ctc	1690
r3A2 arrestor	**ctg ccg agg aga cg**-NH2	1691
r3A2 probe	ccg tca cgc ctc ctc ggc agg-NH2	1692
r3A2 arrestor	**cct gcc gag gag gcg**-NH2	1693
r3A2 stacker	**gcc** cca tcg atc tcc tcc	1694
r3A2 probe	ccg tca cgc ctc ctc ggc agg	1695

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hICAM-1 probe	ccg tca cgc ctc ggc ttg tgt gtt c-NH2	1696
hICAM-1 invader	ccg gga tag gtt cag gga ggc gtc	1697
hICAM-1 stacker	**ggt ttc atg ggg gtc cct**	1698
hICAM-1 arrestor	**gaa cac aca agc cga ggc g**	1699
hVCAM-1 probe	ccg tca cgc ctc gcc ttt gtt tgg-NH2	1700
hVCAM-1 arrestor	**cca aac aaa ggc gag gcg**	1701
hVCAM-1 invader	ggg caa cat tga cat aaa gtg ttt gcg tac tct c	1702
hVCAM-1 stacker	**gtt cga att cca tgt cat c**	1703
hVCAM-1 probe	ccg tca cgc ctc gcc ttt gtt tg-NH2	1704
hVCAM-1 arrestor	**caa aca aag gcg agg cg**	1705
hVCAM-1 stacker	**ggt tcg aat tcc atg tca tc**	1706
hGAPDH probe	aac gag gcg cac gct cct gga aga tg-NH2	1707
hGAPDH arrestor	**cat ctt cca gga gcg tgc gcc**-NH2	1708
hGAPDH invader	cac ttg att ttg gag gga tct ca	1709

FIG. 47A-44

Secondary system oligos

Capture Oligo	aaa agt ggc tcc t-(biotin)c	1710
Capture Oligo	aaa aga ggc tcc gct-(biotin)c	1711
Capture Oligo	aaa atg tac gcc gct-(biotin) c	1712
Capture Oligo	aaa aga tac gcc aca gct-(biotin) c	1713
Capture Oligo	aaa acc aac cgt atg aac t-(biotin) c	1714
Capture Oligo	aaa atc ata cgc cac t-(biotin)c	1715
SRT	cgg-agg-aag-cag-ttg-gtg-tgc-ctc-gtt-g**cc-tt-NH2**	1716
SRT	cgg agg aag cag ttg gtg ccc ctc g**tt aa**-NH2	1717
SRT	cgg aag aag cag ttg gtg cgc ctc **gtt aa**-NH2	1718
SRT	cgg aag aag cag ttg gtg cgc ctc gtt a**a**-NH2	1719
SRT	cgg aag aag cag ttg gtg cgc ctc gtt a**a**	1720
SRT	cgg aag aag cag ttg gtg cgc ctc gtt **aa**	1721
SRT	cgg aag aag cag ttg gtg cgc ctc gtt aa	1722
SRT	cgg aag aag cag ttg gag gcg tga cgg **t**-NH2	1723
SRT	cgg aag aag cag ttg gag gcg tga cgg **a**-NH2	1724
SRT	cgg aag aag cag ttg gag gcg tga cgg **a**	1725
SRT	cgg aag aag cag ttg gag gcg tga cgg **t**	1726
SRT	cgg aag aag cag ttg gag gcg tga cg**g t**	1727
SRT	cgg aag aag cag ttg gag gcg tga c**gg t**	1728
SRT	cgg aag aag cag ttg gag gcg tga cgg a	1729
FRET probe	FL-caa c(cy3)gc ttc ctc	1730
FRET probe	FL-caa c(cy3)gc ttc ctc c	1731
FRET probe	FL-caa-c(cy3)g-ctt-cct-ccg	1732
FRET probe	FL-caa-c(cy3)g-ctt-cct-ccg-**uu**	1733
FRET probe	FL-caa-c(cy3)g-ctt-cct-ccg-**uuu-u**	1734
FRET probe	FL-caa-c(cy3)g-ctt-cct-ccg-NH2	1735

FIG. 47A-45

Oligo sequence descriptions:

5' to 3' direction, 2'-Ome nts are bolded and underlined, internal modifications are defined in ( ), ASR of primary probes are underlined

C18ddC = C18 linker+dideoxy C, ddC = dideoxy C, Fl = Fluorescein

Oligo Type	Oligo Sequence	SEQ ID NO
HUMAN IL-2		
Human IL-2 Probe	Fl- CGAAATTAATACGCCTTCTTGGGCATGTAC -C18ddC	1736
Human IL-2 Probe	CGAAATTAATACGCCTTCTTGGGCATGTAC -C18ddC	1737
Human IL-2 Invader	CTGAAGATGTTTCAGTTCTGTG- ddC	1738
Human IL-2 Invader	GAAGATGTTTCAGTTCTGTGGC	1739
Human IL-2 Probe	TCACTTCCTACCTTCTTGGGCATGTAA	1740
Human IL-2 Probe	TCACTTCCTACCTTCTTGGGCATGTAAAAC	1741
Human IL-2 Probe	TCACTTCCTACCTTCTTGGGCATGTAA- C18ddC	1742
Human IL-2 Invader	GAAGATGTTTCAGTTCTGTGG- ddC	1743
Human IL-2 Probe	Fl- ACTTCCTACTTAATTCCATTCAAAATC	1744
Human IL-2 Probe	ACTTCCTACTTAATTCCATTCAAAATC - C18ddC	1745
Human IL-2 Invader	GAGTTTGGGATTCTTGTAATTAT-ddC	1746
Human IL-2 Probe	Fl- CGTGTTCTGTGGCGTATCTTAATTCCATTCAAAATC	1747
Human IL-2 Probe	CGTGTTCTGTGGCGTATCTTAATTCCATTCAAAATC	1748
Human IL-2 Invader	GAGTTTGGGATTCTTGTAATTAT - ddC	1749
Human IL-2 Probe	Fl- CGTGTTCTGTGGCGTATCTTAATTCCATTCAAAATCATCTG	1750
Human IL-2 Probe	CGTGTTCTGTGGCGTATCTTAATTCCATTCAAAATCATCTG	1751
Human IL-2 Probe	Fl- CGTGTTCTGTGGCGTATCTTAATTCCATTCAAAATCATC	1752
Human IL-2 Probe	CGTGTTCTGTGGCGTATCTTAATTCCATTCAAAATCATC	1753
Human IL-2 Invader	GAGTTTGGGATTCTTGTAATTAT-ddC	1754
HUMAN β-ACTIN		
Human β-actin Probe	Fl-TTCCTACTCTTGATCTTCATTGTGC	1755
Human β-actin Invader	CTCAGGAGGAGCAATGATCTT	1756
Human β-actin Invader	CTCAGGAGGAGCAATGAT	1757
Human β-actin Probe	Fl-TCACTTCCTACTCTGGGTCATCTTCTCG -C18ddC	1758
Human β-actin Probe	TCACTTCCTACTCTGGGTCATCTTCTCG -C18ddC	1759
Human β-actin Invader	GTGTTGAAGGTCTCAAACATGAT- ddC	1760
Human β-actin Invader	GGGTGTTGAAGGTCTCAAACATGAT - ddC	1761
Human β-actin Probe	Fl- CGTGTTCTGTGGCGTATCTGGGTCATCTTCTCG	1762
Human β-actin Probe	CGTGTTCTGTGGCGTATCTGGGTCATCTTCTCG	1763
Human β-actin Invader	GGGTGTTGAAGGTCTCAAACATGAT - ddC	1764

FIG. 47A-46

GAPDH		
Human GAPDH Probe	Fl- TTCATACGGTTGGTAGTTGAGGTCAATG	1765
Human GAPDH Probe	TTCATACGGTTGGTAGTTGAGGTCAATG	1766
Human GAPDH Invader	GGAATCATATTGGAACATGTAAACCATC	1767
Human GAPDH Probe	Fl- TTCATACGGTTGGCTCCTGGAAGATG	1768
Human GAPDH Probe	TTCATACGGTTGGCTCCTGGAAGATG	1769
Human GAPDH Invader	CACTTGATTTTGGAGGGATCTCA	1770
Human/Mouse/Rat GAPDH Probe	TTCATACGGTTGGTAGTTGAGGTCAATG	1771
Mouse/Rat GAPDH Invader	AGAATCATACTGGAACATGTAGACCATC	1772
Mouse GAPDH Probe	Fl-TGGCGTATCATGTAGTTGA	1773
Mouse GAPDH Probe	TGGCGTATCATGTAGTTGA	1774
Mouse GAPDH Invader	GGAGTCATACTGGAACATGTAGACC	1775
Mouse GAPDH Probe	TGGCGTATCATGTAGTTGA	1776
Mouse GAPDH Invader	AGTCATACTGGAACATGTAGACA	1777
Mouse GAPDH Invader	GGAGTCATACTGGAACATGTAGACA	1778
MOUSE IL-6		
Mouse IL-6 Probe	Fl- TGGCGTATCTCTTTTCTCATT	1779
Mouse IL-6 Probe	TGGCGTATCTCTTTTCTCATT	1780
Mouse IL-6 Invader	ACAATCAGAATTGCCATTGCACAACA	1781
MOUSE ONCOSTATIN M		
Mouse Oncostatin M Probe	Fl-GAAGGCAGAGGACCGTGAGGC	1782
Mouse Oncostatin M Probe	GAAGGCAGAGGACCGTGAGGC	1783
Mouse Oncostatin M Invader	AAGACATCTGGTGTTGTAGTGA	1784
Mouse Oncostatin M Probe	Fl-TGGCGTATCTCCCCAGAGAAAGC	1785
Mouse Oncostatin M Probe	TGGCGTATCTCCCCAGAGAAAGC	1786
Mouse Oncostatin M Invader	CACTGAGCCGATGAAGCGATGGTAA	1787
Mouse Oncostatin M Probe	Fl- TGGCGTATCTAGGGCTCCAAGAG	1788
Mouse Oncostatin M Probe	TGGCGTATCTAGGGCTCCAAGAG	1789
Mouse Oncostatin M Invader	GTGTTCAGGTTTTGGAGGCGGATAA	1790
Mouse Oncostatin M Probe	Fl-TGGCGTATCTAGGGCTCCAAG	1791
Mouse Oncostatin M Probe	TGGCGTATCTAGGGCTCCAAG	1792
Mouse Oncostatin M Invader	GTGTTCAGGTTTTGGAGGCGGATAA	1793
FRET Probe	Fl-ATTC(CY3)TCTCAGA-3'NH2	1794
FRET Probe	Fl-ATTC(CY3)TCTCAGAC-3'NH2	1795
FRET Probe	Fl-ATTC(CY3)TCTCAGACT-3'NH2	1796

FIG. 47A-47

SRT	CAGTCTGAGATGAATGATACG**CCAGG**-3'NH2	1797
Mouse Oncostatin M Arrestor	**CTTGGAGCCCTAGATA**-NH2	1798
Mouse Oncostatin M Arrestor	**CTTGGAGCCCTAGAT**-NH2	1799
Mouse Oncostatin M Arrestor	**CTTGGAGCCCTAGA**-NH2	1800
Mouse Oncostatin M Probe	CTGGCGTATCTAGGGCTCCA	1801
Mouse Oncostatin M Probe	CCTGGCGTATCTAGGGCTCCA	1802
Mouse Oncostatin M Invader	GTGTTCAGGTTTTGGAGGCGGATAA	1803
SRT	CAGTCTGAGATGAATGATACG**CCAGG**-3'NH2	1804
Arrestor	**CTTGGAGCCCTAGAT**-NH2	1805
Mouse Oncostatin M Probe	FI-CTCTCTCGTCTCTAGGGCTCCA	1806
Mouse Oncostatin M Probe	CTCTCTCGTCTCTAGGGCTCCA	1807
Mouse Oncostatin M Invader	GTGTTCAGGTTTTGGAGGCGGATAA	1808
SRT	CAGTCTGAGATGAATGAGACGAG**AGAGT**-NH2	1809
Mouse Oncostatin M Arrestor	CTTGGAGCCCTAGAG-NH2	1810
Mouse Oncostatin M Probe	FI- TGGCGTATCTAGGGCTCCA	1811
Mouse Oncostatin M Probe	TGGCGTATCTAGGGCTCCA	1812
Mouse Oncostatin M Invader	GTGTTCAGGTTTTGGAGGCGGATAA	1813
Mouse Oncostatin M Probe	TGGCGTATCTCCCCAGAGAAA	1814
Mouse Oncostatin M Probe	TGGCGTATCTCCCCAGAGA	1815
Mouse Oncostatin M Invader	CACTGAGCCGATGAAGCGATGGTAA	1816
Mouse Oncostatin M Probe	TGGCGTATCTATAGGGCTC	1817
Mouse Oncostatin M Invader	GTGTGTTCAGGTTTTGGAGGCGGAA	1818
Mouse Oncostatin M Probe	CTCTCTCGTCTCTTCAGGTTTTG	1819
Mouse Oncostatin M Invader	GGCAGCTCTCAGGTCAGGTGTGA	1820
Mouse Oncostatin M Invader	AGGCAGCTCTCAGGTCAGGTGTGA	1821
SRT	CAGTCTGAGATGAATGAGACGAG**AGAGT**-NH2	1822
FRET Probe	FI-ATTC(CY3)TCTCAGAC-3'NH2	1823
Mouse Oncstatin M Arrestor	**CAAAACCTGAAGAGA**-3'NH2	1824
Mouse Oncostatin M Arrestor	**CAAAACCTGAAGAGAC**-3'NH2	1825
Mouse Oncostatin M Arrestor	**CAAAACCTGAAGAGACG**-3'NH2	1826
Mouse Oncostatin M Probe	FI- CTCTCTCGTCTCTTCAGGTTTTG	1827
Mouse Oncostatin M Probe	CTCTCTCGTCTCTTCAGGTTTTG-NH2	1828
Mouse Oncostatin M Invader	GGCAGCTCTCAGGTCAGGTGTGA	1829
Mouse Oncostatin M Stacker	GAGGCGGATATAGGGCT- Biotin TEG	1830

FIG. 47A-48

HUMAN ONCOSTATIN M		
Human Oncostatin M Probe	CTCTCTCGTCTTCTAAGGACTTA	1831
Human Oncostatin M Probe	CTCTCTCGTCTTCTAAGGACTTAC	1832
Human Oncostatin M Invader	GAAACAGGAGTGCAAGGACCAGACA	1833
Human Oncostatin M Probe	TCACGTCTCTTCAGGTTTTG	1834
Human Oncostatin M Probe	GTCACGTCTCTTCAGGTTTTG	1835
Human Oncostatin M Probe	AGTCACGTCTCTTCAGGTTTTG	1836
Human Oncostatin M Probe	CAGTCACGTCTCTTCAGGTTTTG	1837
Human Oncostatin M Invader	AGGCAGCTCTCAGGTCAGGTGTGA	1838
Fret Probe 1	FI- CAAC(CY3)GCTTCCTCCG	1839
SRT	CGGAGGAAGCAGTTGGAGACGTGACTG**TGG**-NH2	1840
SRT with mismatch	CGGA**A**GAAGCAGTTGGAGACGTGACTG**TGG**-NH2	1841
SRT with mismatch	CGGA**C**GAAGCAGTTGGAGACGTGACTG**TGG**-NH2	1842

FIG. 47A-49

bold indicates 2' o-methyl bases

Oligo Type	Oligo Sequence	Oligo #	SEQ ID NO
SECONDARY SYSTEM:			
SET 1			
FRET probe 1	5'-F-CAAC(CY3)GCTTCCTCCG-3'	DB04001F6	1843
secondary target	5'- CGGAAGAAGCAGTTGGTGCGCCTC**GTTAA**-NH2	649-10-01	1844
SET 2			
FRET probe 1	5'-F-CAAC(CY3)GCTTCCTCCG-3'	DB04001F6	1845
secondary target	5'-CGGAAGAAGCAGTTGGAGGCGTGACGG**T**-NH2-3'	641-60-03	1846
h2C19 designs 2			
probe	5'-AACGAGGCGCACGATGTCCATCGA-NH2-3'	971-26-09	1847
stacker	**5'-TTCTTGGTGTTCTTTTACTTTCTC-3'**	971-26-12	1848
invader	5'-GCAATCAATAAAGTCCCGAGGGTTGTTC	971-26-11	1849
arrestor	**5'-TCGATGGACATCGTGCGC-3'**	971-26-10	1850
SET 1			
h 2D6 p450 designs			
probe	5'-CCGTCACGCCTCTCACCCATCT-NH2-3'	971-11-01	1851
stacker	**5'-CTGGTCGCCGCACCT-3'**	971-11-04	1852
invader	5'-TGTAGGGCATGTGAGCCTGGA-3'	971-11-03	1853
arrestor	**5'-AGATGGGAGAGAGGCG-3'**	971-11-02	1854
SET 2			
probe	5'-CCGTCACGCCTCGAAGCCCTGT-NH2-3'	971-11-05	1855
stacker	**5'-ACTTCGATGTCACGGGATGTCATATGG-3'**	971-11-08	1856
invader	5'-GAGTGTCGTTCCCTTAGGGATGCGC-3'	971-11-08	1857
arrestor	**5'-ACAGGGCTTCGAGGCG-3'**	971-11-06	1858
SET 2			

FIG. 47A-50

probe	5'-CCGTCACGCCTCCCTGCTGAGAAAG-NH2-3'	971-11-09	1859
stacker	**5'-GCAGGAAGGCCTCCG-3'**	971-11-12	1860
invader	5'-CCCGAGGCATGCACGGCGGA-3'	971-11-11	1861
arrestor	**5'-CTTTCTCAGCAGGGAGGCG-3'**	971-11-10	1862
SET 2			
h 2D6 shroter designs			
probe	5'-CCGTCACGCCTCCCTGCTGAGAAA-HEX-3'	1051-12-06	1863
probe	5'-CCGTCACGCCTCCCTGCTGAGAAA-3'	1051-12-05	1864
probe	5'-CCGTCACGCCTCCCTGCTGAGAAA-NH2-3'	971-38-01	1865
invader	5'-CCCGAGGCATGCACGGCGGA-3'	971-11-11	1866
stacker	**5'-GGCAGGAAGGCCTCC-3'**	971-38-03	1867
arrestor	**5'-TTTCTCAGCAGGGAGGCG-3'**	971-38-02	1868
SET 2			
probe	5'-CCGTCACGCCTCCCTGCTGAGA-NH2-3'	971-38-07	1869
invader		971-11-11	
stacker	**5'-AAGGCAGGAAGGCCTCC-3'**	971-38-09	1870
arrestor	**5'-TCTCAGCAGGGAGGCG-3'**	971-38-08	1871
SET 2			
probe	5'-CCGTCACGCCTCCCTGCTGAGAA-NH2-3'	971-38-04	1872
invader		971-11-11	
stacker	**5'-AGGCAGGAAGGCCTGG-3'**	971-38-06	1873
arrestor	**5'-TTCTCAGCAGGGAGGCG-3'**	971-38-05	1874
SET 2			
probe	5'-CCGTCACGCCTCCCTGCTGAGAAAG-NH2-3'	971-11-09	1875
invader		971-11-11	
stacker	**5'-GCAGGAAGGCCTCCG-3'**	971-11-12	1876
arrestor	**5'-CTTTCTCAGCAGGGAGGCG-3'**	971-11-10	1877
SET 2			

FIG. 47A-51

h 2B6 p450 alt. Splice designs			
probe	5'-AACGAGGCGCACCACCATATCCC-NH2-3'	1051-48-01	1878
invader	5'-CCAGCGGTTTCCATTGGCAAAGATCAA-3'	971-01-03	1879
stacker	**5'-CGGAAGAATGGGTCGACCATG-3'**	971-01-04	1880
arrestor	**5'-GGGATATGGTGGTGCGC-3'**	1051-48-02	1881
SET 1			
probe	5'-CCGTCACGCCTCCACCATATCCC-HEX-3'	1051-12-02	1882
probe	5'-CCGTCACGCCTCCACCATATCCC-3'	1051-12-01	1883
probe	5'-CCGTCACGCCTCCACCATATCCC-NH2-3'	971-01-01	1884
invader		971-01-03	
stacker		971-01-04	
arrestor	**5'-GGGATATGGTGGAGGCG-3'**	971-01-02	1885
SET 2			
probe	5'-AACGAGGCGCACCAGAGCTGATGAG-NH2-3'	1051-48-03	1886
invader	5'-GAGAAGAGCTCAAACAGCTGGCCGAATAA-3'	971-01-10	1887
stacker	**5'-TGAAAAAGTCTGGTAGAACAAGTTCAGC-3'**	971-01-11	1888
arrestor	**5'-CTCATCAGCTCTGGTGCGC-3'**	1051-48-04	1889
SET 1			
probe	5'-CCGTCACGCCTCCAGAGCTGATGAG-NH2-3'	971-01-08	1890
		971-01-10	
		971-01-11	
	5'-CTCATCAGCTCTGGAGGCG-3'	971-01-09	1891
SET 2			
h 2B6 p450 alt.splice designs2			
p	5'-AACGAGGCGCACCCTTGGATTTC-NH2-3'	1051-48-05	1892
l	5'-CTGTTCAATCTCCCTGTAGACTCTCTA-3'	1051-48-10	1893
s	**5'-CGAAGCTCCTCTATCAG-3'**	1051-48-09	1894
a	**5'-GAAATCCAAGGGTGCGC-3'**	1051-48-06	1895
SET 1			

FIG. 47A-52

p	5'-CCGTCACGCCTCCCTTGGATTTC-NH2-3'	1051-48-07	1896
l		1051-48-10	
s		1051-48-09	
a	**5'-GAAATCCAAGGGAGGCG-3'**	1051-48-08	1897
SET 2			
p	5'-AACGAGGCGCACTGAGGGCC-NH2-3'	1051-48-11	1898
l	5'-GGAAGAGGAAGGTGGGGTCCAA-3'	1051-48-16	1899
s	**5'-CCCTTGGATTTCCGAAG-3'**	1051-48-15	1900
a	**5'-GGCCCTCAGTGCGC-3'**	1051-48-12	1901
SET 1			
p	5'-CCGTCACGCCTCTGAGGGCC-NH2-3'	1051-48-13	1902
l		1051-48-16	
s		1051-48-15	
a	**5'-GGCCCTCAGAGGCG-3'**	1051-48-14	1903
SET 2			
h2B6 p450 alt. Splice designs4			
probe	5'-AACGAGGCGCACAATACAGAGCTG-NH2-3'	1051-48-17	1904
invader	5'-GAGAAGAGCTCAAACAGCTGGCCGC-3'	1051-48-22	1905
stacker	**5'-ATGAGTGAAAAAGTCTGGTAGAAC-3'**	1051-48-21	1906
arrestor	**5'-CAGCTCTGTATTGTGCGC-3'**	1051-48-18	1907
SET 1			
probe	5'-CCGTCACGCCTCAATACAGAGCTG-NH2-3'	1051-48-19	1908
invader		1051-48-22	
stacker		1051-48-21	
arrrestor	**5'-CAGCTCTGTATTGAGGCG-3'**□	1051-48-20	1909
SET 2			
probe	5'-AACGAGGCGCACGGTTGAGGTTCTG-NH2-3'	1051-48-23	1910
invader	5'-CAGCAAAGAAGAGCGAGAGCGTGTTGAC-3'	1051-48-28	1911
stacker	**5'-GTGGCTGAATTCACTGTG-3'**	1051-48-27	1912
arrestor	**5'-CAGAACCTCAACCGTGCGC-3'**	1051-48-24	1913
SET 1			

FIG. 47A-53

probe	5'-CCGTCACGCCTCGGTTGAGGTTCTG-NH2-3'	1051-48-25	1914
invader		1051-48-28	
stacker		1051-48-27	
arrestor	**5'-CAGAACCTCAACCGAGGCG-3'**	1051-48-26	1915
SET 2			
h2B6 p450 designs			
probe	5'-CCGTCACGCCTCCACCATATCCCCG-NH2-3'	971-01-06	1916
invader	5'-CCGTCACGCCTCCACCATATCCC-NH2-3'	971-01-03	1917
stacker	**5'-CGGAAGAATGGGTCGAC-3'**	971-01-05	1918
stacker	**5'-CGGAAGAATGGGTCGACCATG-3'**	971-01-04	1919
arrestor	**5'-GGGATATGGTGGAGGCG-3'**	971-01-02	1920
SET 2			
probe	5'-CCAGCGGTTTCCATTGGCAAAGATCAA-3'	971-01-01	1921
invader		971-01-03	
arrestor	**5'-CGGGGATATGGTGGAGGCG-3'**	971-01-07	1922
SET 2			
probe	5'-CCGTCACGCCTCCAGAGCTGATGAG-NH2-3'	971-01-08	1923
invader	5'-GAGAAGAGCTCAAACAGCTGGCCGAATAA-3'	971-01-10	1924
stacker	**5'-TGAAAAAGTCTGGTAGAACAAGTTCAGC-3'**	971-01-11	1925
arrestor	**5'-CTCATCAGCTCTGGAGGCG-3'**□	971-01-09	1926
SET 2			
h2b6p450 designs 2			
probe	5'-CCGTCACGCCTCAGATGACTGCC-NH2-3'	971-01-12	1927
invader	5'-GGAGAAGGTCGGAAAATCTCTGAATCTCATC-3'	971-01-13	1928
stacker	**5'-TCTGTGTATGGCATTTTGGCTCGG-3'**	971-01-14	1929
arrestor	**5'-GGCAGTCATCTGAGGCG-3'**	971-01-15	1930
SET 2			

FIG. 47A-54

h 2C19 designs 1			
probe	5'-CCGTCACGCCTCCATCCTTAATATCTAT-NH2-3'	971-26-01	1931
invader	5'-GAGAGATTGGTTAAGGATTTGCTGAA-3'	971-26-03	1932
stacker	**5'-CTGTAGGATATTTCCAATCACTGGG-3'**	971-26-04	1933
arrestor	**5'-ATAGATATTAAGGATGGAGGCG-3'□**	971-26-02	1934
SET 2			
probe	5'-AACGAGGCGCACCGTTCCAGGC-NH2-3'	971-26-05	1935
invader	5'-CATATCCATGCAGCACCACCATGA-3'	971-26-07	1936
stacker	**5'-CAAAATACAGAGTGAACACAGGGCC-3'**	971-26-08	1937
arrestor	**5'-GCCTGGAACGGTGCGC-3'**	971-26-06	1938
SET 1			
h2C19 shorter site 2 designs			
probe	5'-AACGAGGCGCACCGTTCCAGG-NH2-3'	971-68-01	1939
invader	5'-CATATCCATGCAGCACCACCATGA-3'	971-26-07	1940
stacker	**5'-CCAAAATACAGAGTGAACACAGGGCC-3'**	971-68-03	1941
arrestor	**5'-CCTGGAACGGTGCGC-3'**	971-68-02	1942
SET 1			
probe	5'-AACGAGGCGCACCGTTCCAGGC-NH2-3'	971-26-05	1943
probe	5'-AACGAGGCGCACCGTTCCAGGC-3'	1051-12-03	1944
probe	5'-AACGAGGCGCACCGTTCCAGGC-HEX-3'	1051-12-04	1945
invader		971-26-07	
stacker	5'-CAAAATACAGAGTGAACACAGGGCC-3'	971-68-04	1946
arrestor	**5'-GCCTGGAACGGTGCGC-3'**	971-26-05	1947
SET 1			
rat 1A1, rat 1A2	Rat 1A1 site 1 bs. 639-700		
probe	5'-CCGTCACGCCTCAGATTGACTATGCTG-NH2-3'	500-58-01	1948
invader	5'-CAGTAACCTCCCCAAACTCATTGCTTC-3'	500-58-03	1949
stacker	**5'-AGCAGCTCTTGGTCATCGT-3'**	500-58-04	1950
arrestor	**5'-CAGCATAGTCAATCTGAGGCG-3'**	500-58-02	1951
SET 2			

FIG. 47A-55

rat 1A2	Rat 1A2 site 1 bs. 674-725		
probe	5'-AACGAGGCGCACTGACATTCTCCAC-NH2-3'	500-58-05	1952
invader	5'-GTCCACAGCATTCCCTGAGGA-3'	500-58-07	1953
stacker	**5'-AAAGTCCTTGCTGCTCTTC-3'**	500-58-08	1954
arrestor	**5'-GTGGAGAATGTCAGTGCGC-3'**	500-53-06	1955
SET 1			
rat 2B1-2B2 patent			
probe	5'-AACGAGGCGCACTGGCTTGACACA-NH2-3'	500-49-05	1956
invader	5'-GTCAATGTCCTTGGGAGCCAAAA-3'	500-49-03	1957
stacker	**5'-GAGAAGTTCTGGAGGATGGTGG-3'**	r2B1, 2B2 500-49-07	1958
arrestor	**5'-TGTGTCAAGCCAGTGCGC-3'**	500-49-06	1959
SET 1			
probe	5'-AACGAGGCGCACTGGCTTGACACAG-NH2-3'	500-49-01	1960
invader		500-49-03	
stacker	**5'-AGAAGTTCTGGAGGATGGTGG-3'**	r2B1, 2B2 500-49-04	1961
arrestor	**5'-CTGTGTCAAGCCAGTGCGC-3'**	500-49-02	1962
SET 1			
rat 2B1-2B2 site 4	PROBE SET 2 (r2B1 bs 1299-1353, r2B2 bs. 474-528)		
probe	5'-AACGAGGCGCACGAGGAACAATTCATTT-NH2-3'	500-49-12	1963
invader	5'-GTTCTGGAGGATGGTGGTGAAGAAC-3'	500-49-10	1964
stacker	**5'-CGGGCAATGCCTTCG-3'**	500-49-14	1965
arrestor	**5'-AAATGAATTGTTCCTCGTGCGC-3'**	500-49-13	1966
SET 2			
probe	5'-AACGAGGCGCACGAGGAACAATTCATTTC-NH2-3'	500-49-08	1967
invader		500-49-10	
stacker	**5'-GGGCAATGCCTTCG-3'**	500-49-11	1968
arrestor	**5'-GAAATGAATTGTTCCTCGTGCGC-3'**	500-49-09	1969
SET 1			

FIG. 47A-56

rat 2B1-2B2 ,5 patent			
probe	5'-AACGAGGCGCACAGCTGAGAAGCAG-NH2-3'	500-49-15	1970
invader	**5'-GCCTCAGCC**GGATCACCGC-3'	r2B1, 500-49-17	1971
invader	**5'-GCCTCAGCC**CGATCACCGC-3'	r2B2, 500-49-18	1972
stacker	**5'-ATCTGGTACGTTGGAGGTATT-3'**	r2B1 500-49-20	1973
stacker	**5'-ATCTGGTATGTTGGAGGTATT-3'**	r2B2 500-49-21	1974
arrestor	**5'-CTGCTTCTCAGCTCTGCGC-3'**	500-49-16	1975
NOTE: all 3 invader/probe sets are designed to detect both 2B1 and 2B2			
SET 1			
rat 2E1 p450 (afo61442) 500-73	Rat 2E1 PROBE SET (570C)		
p	5'-CCGTCACGCCTCGTCGAAACGTTTGTT-NH2	500-40-04	1976
l	5'-CCTCAGACACTTCTTGTCATTGTAC-3'	500-40-02	1977
s	**5'-GAAGAGGATATCCGCAATGACATTGC-3'**	500-40-05	1978
a	**5'-AACAAACGTTTCGACGAGGCG-3'**	500-40-06	1979
SET 2			
p	5'-CCGTCACGCCTCGTCGAAACGTTTGTTGAAG-NH2-3'	500-40-01	1980
l		500-40-02	
s		500-40-05	
a	**5'-CTTCAACAAACGTTTCGACGAGGCG-3'**	500-40-03	1981
SET 2			
rat 2E1 p450 (afo61442) 500-73	Rat 2E1 PROBE SET (822G) (designed over splice junction #5)		
p	5'-CCGTCACGCCTCCTCCATCTCTATG-NH2-3'	500-40-10	1982
l	5'-GTTCTTGGCTGTGTTTTTCCTTA-3'	500-40-08	1983
s	**5'-AGGAGACAGTCAGTCACATC-3'**	500-40-11	1984
a	**5'-CATAGAGATGGAGGAGGCG-3'**	500-40-12	1985
SET 2			
p	5'-CCGTCACGCCTCCTCCATCTCTATGAG-NH2-3'	500-40-07	1986
l		500-40-08	
s		500-40-11	
a	**5'-CTCATAGAGATGGAGGAGGCG-3'**	500-40-09	1987

FIG. 47A-57

SET 2			
Rat 2E1 PROBE SET (969G)	Designed over splice junction #6		
probe	5'-CCGTCACGCCTCCTCTTCAATTTCTG-HEX-3'	1073-19-06	1988
invader	5'-CCCTGTCAATTTCTTCATGAAGTTTA-3'	500-40-14	1989
stacker	5'-GGTATTTCATGAGGATCAGGAGC-3'	500-40-17	1990
arrestor	**5'-CCAGAAATTGAAGAGGAGGCG-3'**	500-40-15	1991
SET 2			
probe	5'-CCGTCACGCCTCCTCTTCAATTTCTG-3'	1073-19-05	1992
probe	5'-CCGTCACGCCTCCTCTTCAATTTCTG-NH2-3'	500-40-16	1993
probe	5'-CCGTCACGCCTCCTCTTCAATTTCTGG-NH2	500-40-13	1994
invader		500-40-14	
stacker		500-40-17	
arrestor	**5'-CAGAAATTGAAGAGGAGGCG-3'**	500-40-18	1995
SET 2			
Rat 2E1 PROBE SET (969G)	Designed over splice junction #6		
probe	5'-CCGTCACGCCTCCTCTTCAATTTCT-NH2-3'	500-73-01	1996
invader	5'-CCCTGTCAATTTCTTCATGAAGTTTA-3'	500-40-14	1997
stacker	**5'-GGGTATTTCATGAGGATCAGGAG-3'**	500-73-03	1998
arrestor	**5'-AGAAATTGAAGAGGAGGCG-3'**	500-73-02	1999
SET 2			
rat 3A's design 2			
probe	5'-CCGTCACGCCTCGTTCCTGGGT-NH2-3'	500-43-15	2000
invader	5'-GAGCAAACCTCATGCCAATGCAC-3'	r3A1, 3A18 500-43-23	2001
invader	5'-GAGCAAACCTCATGTCAATGCAC-3'	r3A2 500-43-24	2002
invader	5'-GAGCAAACCTCATGCCAATACAC-3'	r3A2 500-43-24	2003
stacker	**5'-CCATTTCCAAAGGGCAG-3'**	short r3A1, 3A2, 3A18 500-43-19	2004
stacker	**5'-CCATTCCCAAGGGCAG-3'**	short r3A9 500-43-20	2005
arrestor	**5'-ACCCAGGAACGAGGCG-3'**	500-43-16	2006
SET 2			

FIG. 47A-58

probe	□5'-CCGTCACGCCTCGTTCCTGGGTC-NH2-3'	500-43-13	2007
invader		r3A1, 3A18 500-43-23	
invader		r3A2 500-43-24	
arrestor	**5'-GACCCAGGAACGAGGCG-3'**	500-43-14	2008
SET 2			
rat 3A's desing 3			
probe	5'-CCGTCACGCCTCTGAGAGCAAACCT-NH2-3'	500-43-29	2009
invader	5'-AGAGCGAGTTTCATATTCAA-3'	r3A1, 3A2 500-43-35	2010
invader	5'-AGAGCAACTTTCATGTTCAA-3'	r3A9 500-43-36	2011
invader	5'-ACAGCAAGTTTCATGCTGAA-3'	r3A18 500-43-37	2012
stacker	**5' -CATGCCAATGCAGTTCCTG-3'**	r3A1, 3A18 500-43-31	2013
stacker	**5'-CATGTCAATGCAGTTCCTG-3'**	r3A2 500-43-32	2014
stacker	**5'-CATGCCAATACAGTTCCTG-3'**	r3A9 500-43-33	2015
arrestor	**5'-AGGTTTGCTCTCCGAGGCG-3'**	500-43-30	2016
SET 2			
probe	□5'-CCGTCACGCCTCTGAGAGCAAACCTCA-NH2-3'	500-43-27	2017
invader		r3A1, 3A2 500-43-35	
invader		r3A9 500-43-36	
invader		r3A18 500-43-37	
arrestor	**5'-TGAGGTTTGCTCTCAGAGGCG-3'**	500-43-28	2018
SET 2			
rat 3A's designs			
probe	5'-CCGTCACGCCTCGGAACATCTCCT-NH2-3'	500-43-03	2019
invader	**5'-TGTCTCCATACTGTT**CAATGATGGC-3'	r3A1, 3A2 500-43-09	2020
invader	**5'-TATCTGTATACTGGT**TAATGATGGC-3'	r3A9 500-43-10	2021
invader	**5'-TATCTCCATACTGTC**TCATGAGGGC-3'	r3A18 500-43-11	2022
s	**5' -TGAGTCTTCCACTGGTG-3'**	r3A1, 3A2 500-43-05	2023
s	**5'-TGAGCTTCCCACTGGTG-3'**	r3A9 500-43-06	2024
a	**5' -TGAGTTTGCCACTGGTG-3'**	r3A18 500-43-07	2025
SET 2			

FIG. 47A-59

probe	5'-CCGTCACGCCTCGGAACATCTCCTTGA-NH2-3'	500-43-01	2026
invader		r3A1, 3A2 500-43-09	
invader		r3A9 500-43-10	
invader		r3A18 500-43-11	
arrestor	**5'-TCAAGGAGATGTTCCGAGGCG-3'**	500-43-02	2027
SET 2			
rat 3A's design 2b			
probe	5'-CCGTCACGCCTCGTTCCTGGG-NH2-3'	991-39-01	2028
invader	5'-GAGCAAACCTCATGCCAATGCAC-3'	r3A1, 3A18 500-43-23	2029
invader	5'-GAGCAAACCTCATGTCAATGCAC-3'	r3A2 500-43-24	2030
invader	5'-GAGCAAACCTCATGCCAATACAC-3'	r3A9 500-43-25	2031
stacker	**5' -TCCATTTCCAAAGGGCAG-3'**	r3A1, 3A2, 3A18 991-39-03	2032
stacker	**5' -TCCATTCCCAAAGGGCAG-3'**	r3A9 991-39-04	2033
arrestor	**5'-CCCAGGAACGAGGCG-3'**	991-39-02	2034
SET 2			
rat or human 1A1 shorter site 2			
probe	5'-CCGTCACGCCTCCTGTCTGTGAT-HEX-3'	1073-19-02	2035
probe	5'-CCGTCACGCCTCCTGTCTGTGAT-3'	1073-19-01	2036
probe	□5'-CCGTCACGCCTCCTGTCTGTGAT-NH2-3'	991-12-04	2037
invader	**5'-TCCTGACAATGC**TCAATGAGGA-3'	r 1A1 500-53-11	2038
invader	**5'-TCCTGACAGTGC**TCAATCAGGA-3'	h 1A1 500-53-12	2039
stacker	**5' -GTCCCGGATGTGGCCC-3'**	rat/human 1A1 991-12-06	2040
arrestor	**5'-ACATCACAGACAGGAGGCG-3'**	500-53-10	2041
SET 2			
probe	5'-CCGTCACGCCTCCTGTCTGTGATG-NH2-3'	991-12-01	2042
invader		r 1A1 500-53-11	
invader		h 1A1 500-53-12	
stacker	**5'-TCCCGGATGTGGCCCT-3'**	rat/human 1A1 991-12-03	2043
arrestor	**5'-CATCACAGACAGGAGGCG-3'**□	991-12-02	2044
SET 2			

FIG. 47A-60

probe	5'-CCGTCACGCCTCCTGTCTGTGATGT-NH2-3'	500-53-09	2045
invader		r 1A1 500-53-11	
invader		h 1A1 500-53-12	
stacker	**5'-GTCCCGGATGTGGCCC-3'**	rat/human 1A1 991-12-06	2046
arrestor	**5'-ATCACAGACAGGAGGCG-3'**□	991-12-05	2047
SET 2			
rat or human 1A1 site 1			
probe	5'-CCGTCACGCCTCTGGCCCTTC-NH2-3'	500-53-04	2048
invader	5'-CTGTCTGTGATGTCCCGGATGA-3'	500-53-03	2049
stacker	**5' -TCAAATGTCCTGTAGTGCTC- 3'**	rat 1A1 500-53-06	2050
stacker	**5' -TCAAAGGTTTTGTAGTGCTC- 3'**	human 1A1 500-53-07	2051
arrestor	**5'-GAAGGGCCAGAGGCG-3'**	500-53-05	2052
SET 2			
probe	5'-CCGTCACGCCTCTGGCCCTTCTC-NH2-3'	500-53-01	2053
invader		500-53-03	
arrestor	**5'-GAGAAGGGCCAGAGGCG-3'**	500-53-02	2054
SET 2			
Rat/Human 1A1 site 2			
probe	5'-CCGTCACGCCTCCTGTCTGTGATGT-NH2-3'	500-53-09	2055
invader	**5'-TCCTGACAATGCTCAATGAGGA-3'**	r 1A1 500-53-11	2056
invader	**5'-TCCTGACAGTGCTCAATCAGGA-3'**	h 1A1 500-53-12	2057
stacker	**5'-CCCGGATGTGGCCCT-3'**	rat/human 1A1 500-53-14	2058
arrestor	**5'-ACATCACAGACAGGAGGCG-3'**	500-53-10	2059
SET 2			
rat or human 1A2 sites			
probe	□5'-AACGAGGCGCACGGACTGTTTTCTGC-HEX-3'	1073-19-04	2060
probe	5'-AACGAGGCGCACGGACTGTTTTCTGC-3'	1073-19-03	2061
probe	5'-AACGAGGCGCACGGACTGTTTTCTGC-NH2-3'	500-53-15	2062
invader	**5'-CTTGTTGAAGTCTTGAT**AGTGTTCCTC-3'	rat 1A2 500-53-17	2063
invader	**5'-CTTGTCAAAGTCCTGATAGTGCTCCTC-3'**	human 1A2 500-53-18	2064
arrestor	**5'-GCAGAAAACAGTCCGTGCGC-3'**□	500-53-16	2065
SET 1			

FIG. 47A-61

shorter h2C19 design site 3			
probe	□5'-AACGAGGCGCACGATGTCCATCG-NH2-3'	971-48-01	2066
invader	5'-GCAATCAATAAAGTCCCGAGGGTTGTTC-3'	971-26-11	2067
stacker	**5'-ATTCTTGGTGTTCTTTTACTTTCTC-3'**	971-48-03	2068
arrestor	**5'-CGATGGACATCGTGCGC-3'**	971-48-02	2069
SET 1			

FIG. 47A-62

Human IL-10					
Oligo Type	**Sequence**	**Oligo Number**	**Secondary Cassette**	**Comments**	**SEQ ID NO**
probe	aacgaggcgcaccaaactcactcatggct-NH2	511-31-01	FV-1 & FV-2	3' amine	2070
arrestor	agccatgagtgagtttggtgcg	511-31-02		All 2'-Ome + 3' amine arrestor for 511-31-01	2071
probe	aacgaggcgcaccaaactcactcatggc-NH2	511-30-01	FV-1 & FV-2	3' amine	2072
arrestor	gccatgagtgagtttggtgcg	511-30-02		All 2'-Ome + 3' amine arrestor for 511-30-01	2073
arrestor	gccatgagtgagtttgg	380-89-02		All 2-Ome Same as 380-82-02	2074
arrestor	gccatgagtgagtttggtg	380-89-04		All 2-Ome Same as 380-82-04	2075
arrestor	gccatgagtgagtttggtgcg	380-89-06		All 2-Ome Same as 380-82-06	2076
arrestor	gccatgagtgagtttggtgcgcc	380-89-08		All 2-Ome Same as 380-82-08	2077
probe	aacgaggcgcaccaaactcactcatgg-NH2	511-67-01	FV-1 & FV-2	3' amine	2078
stacker	ctttgtacatgccttctcttggagc	781-79-01		stacker for 511-67-01 All 2'Ome	2079
arrestor	ccatgagtgagtttggtgcg	781-79-02		all 2'Ome arrestor for 511-67-01	2080
probe	aacgaggcgcaccaaactcactcatg-NH2	781-80-01	FV-1 & FV-2	3' amine	2081
stacker	gctttgtacatgccttctcttggag	781-80-02		stacker for 781-80-01 All 2'Ome	2082
arrestor	catgagtgagtttggtgcg	781-80-03		all 2'Ome arrestor for 781-80-01	2083
probe	aacgaggcgcaccaaactcactcat-NH2	781-81-01	FV-1 & FV-2	3' amine	2084
stacker	ggctttgtacatgccttctcttgga	781-81-02		stacker for 781-81-01 All 2'Ome	2085
stacker	ggctttgtagatgcctttctcttgga	938-74-01		stacker for 781-81-01 All 2'Ome to replace 781-81-02	2086
arrestor	atgagtgagtttggtgcg	781-81-03		all 2'Ome arrestor for 781-81-01	2087
probe	ccgtcacgcctccaaactcactcat-NH2	938-46-02	MO4-1/MO4-2/MO4-3	same as 938-46-01 w/ 3' amine	2088
arrestor	atgagtgagtttggaggc	938-46-03		all 2'Ome arrestor for 938-46-01&02	2089
invader	taggcttctatgtagttgatgaagatgta	380-59-02			2090
invader	gtcatgtaggcttctatgtagttgatgaagatgta	511-32-01		longer invader 380-59-02	2091
Mouse IL-4					
probe	aacgaggcgcactctcctgtgacctcg	511-14-01	FV-1 & FV-2		2092
arrestor	cgaggtcacaggagagtgcg	511-14-02		All 2'-Ome + 3' amine arrestor for 511-14-01	2093
probe	aacgaggcgcactctcctgtgacct-NH2	511-12-01	FV-1 & FV-2	458-34-01 with 3' amine	2094
arrestor	aggtcacaggagagtgcg	511-02-01		All 2'-Ome + 3' amine arrestor for 458-34-01	2095
probe	cagtcacgtctctctcctgtgacct-NH2	511-16-01	MO2	3' amine	2096
arrestor	aggtcacaggagagagacg	511-16-02		All 2'-Ome + 3' amine arrestor for 511-16-01	2097
arrestor	aggtcacaggagagagac	511-50-01		All 2'-Ome + 3' amine arrestor for 511-16-01	2098
probe	aaccagtcgtacgtctcctgtgacct	458-35-01	MISC-1		2099
arrestor	aggtcacaggagacgtac	511-03-01		All 2'-Ome + 3' amine arrestor for 458-35-01	2100
probe	ccagtcgtacgtctcctgtgacct	458-35-02	MISC-1		2101
arrestor	aggtcacaggagagtgcg	511-04-01		All 2'-Ome + 3' amine arrestor for 458-36-01	2102
probe	aaccacccgcactctcctgtgacct	458-36-01	MISC-2		2103
probe	aacgaggcgcactctcctgtgacc	511-13-01	FV-1 & FV-2		2104
arrestor	ggtcacaggagagtgcg	511-13-02			2105
probe	aacgaggcgcactctcctgtga-NH2	781-71-01	FV-1 & FV-2	3' amine	2106
stacker	cctcggttcaaaatgccgatgatctctc	781-71-02		All 2'-Ome for 781-71-01	2107
arrestor	tcacaggagagtgcgc	781-71-03		All 2'-Ome arrestor for 781-71-01	2108
Invader	atccatctccgtgcatggcgtcccta	380-32-01			2109
Invader	atccatctccgtg**a**atggcgtcccta	380-32-02		Same as380-32-01 but underlined base is mismatch to sequence	2110
probe	aacgaggcgcacccctctctcctgtgac-NH2	511-44-01	FV-1 & FV-2	3' amine	2111
arrestor	gtcacaggagaaggggtgcg	511-44-02		All 2'-Ome + 3' amine arrestor for 511-44-01	2112
probe	aacgaggcgcacccctctcctgt-NH2	511-68-01	FV-1 & FV-2	3' amine	2113
arrestor	acaggagaaggggtgcg	511-68-02		All 2'-Ome + 3' amine arrestor for 511-68-01	2114
invader	ggcacatccatctccgtgcatggcgta	511-45-01			2115

FIG. 47A-63

probe	ccgtcacgcctcctcctgtgacctcgt-NH2	511-46-01	MO4-1/MO4-2/MO4-3	3' amine	2116
arrestor	acgaggtcacaggaggaggc	511-46-02		All 2'-Ome + 3' amine arrestor for 511-46-01	2117
probe	ccgtcacgcctcctcctgtgacctc-NH2	511-69-01	MO4-1/MO4-2/MO4-3	3' amine	2118
arrestor	gaggtcacaggaggaggc	511-69-02		All 2'-Ome + 3' amine arrestor for 511-69-01	2119
probe	ccgtcacgcctcctcctgtgacc-NH2	781-68-01	MO4-1/MO4-2/MO4-3	3' amine	2120
stacker	tcggttcaaaatgccgatgatctctctca	781-68-02		All 2'Ome stacker for 781-68-01	2121
arrestor	ggtcacaggaggaggcg	781-68-03		All 2'-Ome arrestor for 781-68-01	2122
probe	ccgtcacgcctcctcctgtgac-NH2	781-69-01	MO4-1/MO4-2/MO4-3	3' amine	2123
stacker	ctcggttcaaaatgccgatgatctctctca	781-69-02		All 2'Ome stacker for 781-69-01	2124
arrestor	gtcacaggaggaggcg	781-69-03		All 2'-Ome arrestor for 781-69-01	2125
invader	acatccatctccgtgcatggcgtccctta	511-47-01			2126
probe	cagtcacgtctctcccttctcct-NH2	511-17-01	MO2	3' amine	2127
arrestor	aggagaagggagagacg	511-17-02		All 2'-Ome + 3' amine arrestor for 511-17-01	2128
invader	gcacatccatctccgtgcatggcga	511-18-01			2129
probe	ccgccgagatcactcctgtgacc-NH2	781-83-01	TT-1/TT-2	3' amine	2130
arrestor	ggtcacaggagtgatc	781-83-02		All 2' Ome arrestor for 781-83-01	2131
probe	ccgtcacgcctctcctgtgacc-NH2	781-82-01	MO4-1/MO4-2/MO4-3	3' amine	2132
invader	ccgtgcatggcgtcccttca	781-82-02			2133
arrestor	ggtcacaggagaggcg	781-82-03		All 2' Ome arrestor for 781-82-01	2134
probe	ccgtcacgcctccctgtgacc-NH2	781-84-01	MO4-1/MO4-2/MO4-3	3' amine	2135
invader	cgtgcatggcgtcccttcta	781-84-02			2136
arrestor	ggtcacagggaggcg	781-84-03		All 2' Ome arrestor for 781-84-01	2137

Mouse IL-2

Oligo Type	**Sequence**	**Oligo Number**	**Secondary Cassette**	**Comments**	
probe	cagtcacgtctcttagtttacaacagttactct-NH2	511-19-01	MO2	3' amine	2138
arrestor	agagtaactgttgtaaaactaaagagacg	511-19-02		All 2'-Ome + 3' amine arrestor for 511-19-01	2139
invader	gcactcaaatgtgttgtcagagccca	511-20-01			2140

Mouse IFN-γ

Oligo Type	**Sequence**	**Oligo Number**	**Secondary Cassette**	**Comments**	
probe	cagtcacgtctctccttttgccagttcc-NH2	511-24-01	MO2	3' amine	2141
arrestor	ggaactggcaaaaggagagacg	511-24-02		All 2'-Ome + 3' amine arrestor for 511-24-01	2142
probe	cagtcacgtctctccttttgccagttc-NH2	511-23-01	MO2	3' amine	2143
arrestor	gaactggcaaaaggagagacg	511-23-02		All 2'-Ome + 3' amine arrestor for 511-23-01	2144
probe	cagtcacgtctctccttttgccagtt-NH2	511-21-01	MO2	3' amine	2145
arrestor	aactggcaaaaggagagacg	511-21-02		All 2'-Ome + 3' amine arrestor for 511-20-01	2146
invader	gctctgcaggattttcatgtcaccaa	511-22-01			2147

Human TNF-α

Oligo Type	**Sequence**	**Oligo Number**	**Secondary Cassette**	**Comments**	
probe	ccgccggagatcactctgactgcctg-NH2	511-77-01	TT-1/TT-2	3' amine (based on 685-27-01-1 base shorter)	2148
arrestor	caggcagtcagagtgatctcgg	511-77-02		All 2'-Ome + 3' amine arrestor for 511-77-01	2149
probe	ccgccggagatcactctgactgcct-NH2	511-78-01	TT-1/TT-2	3' amine (based on 685-27-01-2 bases shorter)	2150
arrestor	aggcagtcagagtgatctcgg	511-78-02		All 2'-Ome + 3' amine arrestor for 511-78-01	2151
invader	ctt gtc act cgg ggt tcg aga aga tga a	685-28-01			2152

FIG. 47A-64

Human IL-1β

Oligo Type	Sequence	Oligo Number	Secondary Cassette	Comments	
probe	gccgtcacgcctctcatctgtttagggcc-NH2	511-79-01	MO4-1/MO4-2/MO4-3	3' amine (based on 685-21-01)	2153
arrestor	ggccctaaacagatgagaggcgt	511-80-01		All 2'-Ome + 3' amine arrestor for 511-79-01	2154
arrestor	ggccctaaacagatgagaggcgtga	511-80-02		All 2'-Ome + 3' amine arrestor for 511-79-01	2155
invader	caggtcctggaaggagcacta	685-23-01			2156

Human IL-6

Oligo Type	Sequence	Oligo Number	Secondary Cassette	Comments	
probe	gccgtcacgcctctctcctcattgaatcct-NH2	511-81-01	MO4-1/MO4-2/MO4-3	3' amine (based on 685-16-01)	2157
arrestor	aggattcaatgaggagagaggcgtga	511-82-01		All 2'-Ome + 3' amine arrestor for 511-81-01	2158
arrestor	aggattcaatgaggagagaggcgt	511-82-02		All 2'-Ome + 3' amine arrestor for 511-81-01	2159
probe	ccgtcacgcctctctcctcattgaatcct-NH2	781-27-01	MO4-1/MO4-2/MO4-3	3' amine (511-81-01 with new arm)	2160
arrestor	aggattcaatgaggagagaggcg	781-27-02		All 2'-Ome + 3' amine arrestor for 781-27-01	2161
probe	gccgtcacgcctctctcctcattgaatcc-NH2	511-83-01	MO4-1/MO4-2/MO4-3	3' amine (based on 685-16-01)	2162
arrestor	ggattcaatgaggagagaggcgtga	511-84-01		All 2'-Ome + 3' amine arrestor for 511-81-01	2163
arrestor	ggattcaatgaggagagaggcgt	511-84-02		All 2'-Ome + 3' amine arrestor for 511-81-01	2164
probe	ccgtcacgcctctctcctcattgaatcc-NH2	781-28-01	MO4-1/MO4-2/MO4-3	3' amine (511-83-01 with new arm)	2165
arrestor	ggattcaatgaggagagaggcg	781-28-02		All 2'-Ome + 3' amine arrestor for 781-28-01	2166
probe	ccgtcacgcctctctcctcattgaatc-NH2	781-29-01	MO4-1/MO4-2/MO4-3	3' amine (1 base shorter than 781-28-01)	2167
arrestor	gattcaatgaggagagaggcg	781-29-02		All 2'-Ome + 3' amine arrestor for 781-29-01	2168
probe	ccgccgagatcactctcctcattgaatc-NH2	781-30-01	TT-1/TT-2	3' amine (781-29-01 with new arm)	2169
arrestor	gattcaatgaggagagtgatctc	781-30-02		All 2'-Ome + 3' amine arrestor for 781-30-01	2170
invader	cca aaa gtc cag tga tga ttt tca cca ggc aag a	685-18-01			2171

Secondary Cassettes

SRT	cggaggaagcagttggtgcgcctc**gttaaNH2**	277-68-05	**FV-1**	2172
FRET probe	Fcaac(Cy3)gcttcctccg	187-46-01		2173
SRT	ccaggaagcaagtggtgcgcctcg**ttt**	996-29-01	**FV-2**	2174
FRET probe	Fcac(Z21)tgcttcgtgg	767-29-02		2175
SRT	cggaagaagcagttggaggcgtgacggtNH2	641-60-03	**MO4-1**	2176
FRET probe	Fcaac(Cy3)gcttcctccg	187-46-01		2177
SRT	cggaagaagcagttggaggcgtgacg**gc**NH2	562-93-01	**MO4-2**	2178
FRET probe	Fcaac(Cy3)gcttcctccg	187-46-01		2179
SRT	ccaggaagcaagtggaggcgtgac**ggu**	996-29-02	**MO4-3**	2180
FRET probe	Fcac(Z21)tgcttcgtgg	767-29-02		2181
SRT	cggaggaagcagttggtgatctcggc**gg**NH2	562-92-01	**TT-1**	2182
FRET probe	Fcaac(Cy3)gcttcctccg	187-46-01		2183
SRT	cggaagaagcagttggtgatctcggcggNH2	685-56-01	**TT-2**	2184
FRET probe	Fcaac(Cy3)gcttcctccg	187-46-01		2185
SRT	gctactgagatgaaggagacgtgactgtaNH2	491-68-02	**MO2**	2186
FRET probe	Fcttc(Cy3)tctcagtagc	491-68-01		2187

FIG. 47A-65

SRT	ccg agg aag cgg ttg cgt acg act ggt taa-NH2	458-35-03	MISC-1	2188
FRET probe	Fcaac(Cy3)gcttcctccg	187-46-01		2189
SRT	cgg agg aag cgg ttg gtg cgg gtg gtt gg-PO3	441-31-02	MISC-2	2190
FRET probe	Fcaac(Cy3)gcttcctccg	187-46-01		2191

FIG. 47A-66

Oligo sequence descriptions: 5' to 3' direction, 2'-Ome nts are bolded and underlined, internal modifications defined in ( )

FRET Oligo/SRT Combinations

	FRET Oligo	SRT
Set 1	187-46-01	641-60-02
Set 2	187-46-01	690-82-03
Set 3	307-70-02	339-50-03
Set 4	303-18-05	343-63-07
Set 5	303-18-05	343-25-01
Set 6	187-46-01	649-10-01
Set 7	744-80-03	277-068-05N
Set 8	187-46-01	833-18-07
Set 9	767-28-03	777-71-10
Set 10	767-29-02	996-29-01
Set 11	1067-20-01	996-29-01
Set 12	307-70-02	307-70-04
Set 13	491-01-01	491-02-04
Set 14	187-46-01	562-84-01

FRET Oligos

Oligo #	Oligo Sequence	SEQ ID NO
187-46-01	Fam-CAAC(CY3)GCTTCCTCCG	2192
307-70-02	Fam-ATTC(CY3)TCTCAGAC-NH2	2193
303-18-05	Fam-TAAC(CY3)GCTTCCTCCG	2194
744-80-03	Fam-CAA(Dabcyl)TGCTTCCTCCG	2195
767-28-03	Red Dye-CTC(Z-21)TTCTCAGTGCG	2196
767-29-02	Fam-CAC(Z-21)TGCTTCGTGG	2197
1067-20-01	Fam-CAC(Z-28)TGCTTCGTGG	2198
491-01-01	Fam-CTTC(CY3)TCTCAGAC	2199

SRT

Oligo #	Oligo Sequence	SEQ ID NO
641-60-02	CGGAGGAAGCAGTTGGAGGCGTGACGGT-NH2	2200
690-82-03	CGGAGGAAGCAGTTGTGGCGGTGACGGTT	2201
339-50-03	CAGTCTGAGATGAATGAGACGAGAGAGT-NH2	2202
343-63-07	CGGAGGAAGCGGTTAGTCTGTCAC**GTCAT**-NH2	2203
343-25-01	CGGAGGAAGCGGTTAGTCTGCCAC**GTCAT**-NH2	2204
649-10-01	CGGAAGAAGCAGTTGGTGCGCCTC**GTTAA**-NH2	2205
277-068-05N	CGGAGGAAGCAGTTGGTGCGCCTC**GTTAA**-NH2	2206
833-18-07	CGGAGGAAGCAGTTGCGGCGTGCGGC**T**-NH2	2207
777-71-10	GCGCAGTGAGAATGAGGAGGCGTGACGG**U**-NH2	2208
996-29-01	CCAGGAAGCAAGTGGTGCGCCTCG**UUU**	2209
307-70-04	CAGTCTGAGATGAATGATACG**CCAGG**-NH2	2210
491-02-04	AGTCTGAGATGAAGGAGACGTGACTG**TGG**-NH2	2211
562-84-01	CGGAGGAAGCGGTTGGTGATCTCGG**CG**-NH2	2212

FIG. 47A-67

Oligo Type	Oligo #	Oligo Sequence	Notes	Position	SEQ ID NO
Human IL-2					
Probe	196-56-01	TCTGTGGCGTATCCTTCTTGGGCATGTAA		Splice Junction 2	2213
Probe	196-56-02	GTGGCGTATCCTTCTTGGGCATGTAA			2214
Probe	196-56-03	GCGTATCCTTCTTGGGCATGTAA			2215
Invader	128-93-02	GAAGATGTTTCAGTTCTGTGG(ddC)	ddC = dideoxy C		2216
Capture Oligo	145-030-05	AAAAGATACGCCACAGAACACG(BIOTIN-dA)TT			2217
Probe	315-28-01	TGGCGTATCTTAATTCCATTCAAAAT		Splice Junction 1	2218
Invader	315-28-02	TGGGAGTTTGGGATTCTTGTAATTAA			2219
Capture Oligo	195-023-01	AAAAGATACGCCACAGC(BIOTIN-dT)C			2220
Probe	315-29-01	TGGCGTATCTAATTATTAATTCCATTC		Splice Junction 1	2221
Invader	315-29-02	ATCCTGGTGAGTTTGGGATTCTTGA			2222
Capture Oligo	195-023-01	AAAAGATACGCCACAGC(BIOTIN-dT)C			2223
Probe	315-29-03	TGGCGTATCTTCCATTCAAAATCATC		Splice Junction 1	2224
Invader	315-29-04	GTTTGGGATTCTTGTAATTATTAAA			2225
Capture Oligo	195-023-01	AAAAGATACGCCACAGC(BIOTIN-dT)C			2226
Probe	315-30-01	GTGGCGTATCCTTCTTGGGCAT		Splice Junction 2	2227
Invader	315-30-02	GAAGATGTTTCAGTTCTGTGGC			2228
Capture Oligo	195-023-01	AAAAGATACGCCACAGC(BIOTIN-dT)C			2229
Human b-actin					
Probe	315-26-01	TGGCGTATCTCTGGGTCATCTTC		Splice Junction 3	2230
Invader	315-26-02	GGGTGTTGAAGGTCTCAAACATGAA			2231
Capture Oligo	195-023-01	AAAAGATACGCCACAGC(BIOTIN-dT)C			2232
Probe	315-27-01	TGGCGTATCTCTTGATCTTCATTGT		Splice Junction 5	2233
Invader	315-27-02	ACTTGCGCTCAGGAGGAGCAATGAA			2234
Capture Oligo	195-023-01	AAAAGATACGCCACAGC(BIOTIN-dT)C			2235
Probe	315-91-01	TGGCGTATCTGATCTGGGTCATCT		Splice Junction 3	2236
Invader	315-91-02	TGGCTGGGGTGTTGAAGGTCTCAAACAA			2237
Capture Oligo	195-023-01	AAAAGATACGCCACAGC(BIOTIN-dT)C			2238
Probe	315-92-01	ACCCGTATCTGCCCAGGAAGGA		Splice Junction 4	2239
Invader	315-92-02	AGTTTCGTGGATGCCACAGGAGACCAA			2240
Invader	315-92-03	AGTTTCGTGGATGCTACAGGAGACCAA			2241
Capture Oligo	195-023-01	AAAAGATACGCCACAGC(BIOTIN-dT)C			2242
Probe	340-32-01	TGGCGTATCTCTCAAACATGATCT		Splice Junction 3	2243
Invader	340-32-02	ACGTACATGGCTGGGGTGTTGAAGGA			2244
Capture Oligo	195-023-01	AAAAGATACGCCACAGC(BIOTIN-dT)C			2245
Probe	340-33-01	TGGCGTATCTGATCTGGGTCATC		Splice Junction 3	2246
Invader	340-33-02	TGGCTGGGGTGTTGAAGGTCTCAAACAA			2247
Capture Oligo	195-023-01	AAAAGATACGCCACAGC(BIOTIN-dT)C			2248
Probe	740-01-01	CCGTCACGCCTCGCCTTGGGGTTC		Splice Junction 3	2249
Invader	740-01-02	TCTGGGTCATCTTCTCGCGGTTGA			2250
Arrestor	740-01-03	**GAACCCCAAGGCGAGGCGT**			2251
Secondary Cassette		Set 1			
Probe	740-01-08	CCGTCACCGCCATGGGTCATCTTCT		Splice Junction 3	2252
Stacker	740-01-04	CGCGGTTGGCCTTGGGGTT			2253
Invader	740-01-06	CTGGGGTGTTGAAGGTCTCAAACATGATCC			2254
Arrestor	740-01-09	**AGAAGATGACCCATGGCGG**			2255
Secondary Cassette		Set 2			
Mouse GAPDH					

FIG. 47A-68

Probe	425-59-01	Fl-CTCTCTCGTCTCTCCTGGAAGA	Fl = Fluorescien	Splice Junction 4	2256
Invader	425-59-02	ATTTGATGTTAGTGGGGTCTCGCA			2257
Probe	425-60-01	Fl-CTCTCTCGTCTCTGCTGACAATC	Fl = Fluorescien	Splice Junction 6	2258
Invader	425-60-02	GCAGTTGGTGGTGCAGGATGCATA			2259
Probe	425-61-01	Fl-CTCTCTCGTCTCTACCAGGAAATG	Fl = Fluorescien	Splice Junction 8	2260
Invader	425-61-02	GCTGTAGCCGTATTCATTGTCAA			2261
Probe	425-80-01	Fl-CTCTCTCGTCTCCTCCTGGAAG		Splice Junction 4	2262
Invader	425-80-02	CATTTGATGTTAGTGGGGTCTCGA			2263
Probe	425-87-01	CTCTCTCGTCTCTCCTGGAAGA	Same as 425-59-01 without Fluorescien	Splice Junction 4	2264
Invader	425-59-02	ATTTGATGTTAGTGGGGTCTCGCA			2265
Arrestor	425-87-04	**TCTTCCAGGAGAGACG**			2266
Secondary Cassette		Set 3			
Probe	425-87-02	CTCTCTCGTCTCCTCCTGGAAG	Same as 425-80-01 without Fluorescien	Splice Junction 4	2267
Invader	425-80-02	CATTTGATGTTAGTGGGGTCTCGA			2268
Arrestor	425-87-05	**CTTCCAGGAGGAGACG**			2269
Secondary Cassette		Set 3			
Probe	425-87-03	CTCTCTCGTCTCTACCAGGAAATG	Same as 425-61-01 without Fluorescien	Splice Junction 8	2270
Invader	425-61-02	GCTGTAGCCGTATTCATTGTCAA			2271
Arrestor	425-87-06	**CATTTCCTGGTAGAGACG**			2272
Secondary Cassette		Set 3			
Probe	453-23-01	ATGACGTGACAGACCTCCTGGAAGAT		Splice Junction 4	2273
Probe	453-23-03	ATGACGTGACAGACCTCCTGGAAGATG			2274
Invader	425-80-02	CATTTGATGTTAGTGGGGTCTCGA			2275
Arrestor	453-23-04	**CATCTTCCAGGAGGTCTGT**-NH2			2276
Secondary Cassette		Set 4			
Probe	453-23-02	ATGACGTGGCAGACCTCCTGGAAGAT		Splice Junction 4	2277
Invader	425-80-02	CATTTGATGTTAGTGGGGTCTCGA			2278
Arrestor	453-23-05	**ATCTTCCAGGAGGTCTGC**-NH2			2279
Secondary Cassette		Set 5			
Probe	435-67-04	CAGTCACGTCTCTTCAGGTTTTG			2280
Invader	395-05-07	AGGCAGCTCTCAGGTCAGGTGTGA			2281
FRET Probe - Secondary Reaction	524-51-01	Fl-CTTC(Cy3)TCTCAGTAGCG			2282
Secondary Reaction Template	524-51-03	CGCTACTGAGATGAAGGAGACGTGACTGTA-NH2			2283
Secondary Reaction Template	524-51-04	CGCTAATGAGATGAAGGAGACGTGACTGTA-NH2			2284
Probe	435-67-04	CAGTCACGTCTCTTCAGGTTTTG			2285
Invader	395-05-07	AGGCAGCTCTCAGGTCAGGTGTGA			2286
FRET Probe - Secondary Reaction	524-51-02	Fl-CTTC(Cy3)TCTCAGTAGCGA			2287
Secondary Reaction Template	524-51-05	TCGCTACTGAGATGAAGGAGACGTGACTGTA-NH2			2288
Secondary Reaction Template	524-51-06	TCGCTAATGAGATGAAGGAGACGTGACTGTA-NH2			2289
Human Ubiquitin					
Probe	796-72-01	AACGAGGCGCACCTTTACATTTTCTATCGTATCC		119	2290
Invader	428-81-02	CCTTCCTTATCCTGGATCTTGGCA			2291
Arrestor	796-72-02	**GGATACGATAGAAAATGTAAAGGTGCGC**			2292
Secondary Cassette		Set 6			
Probe	796-72-03	AACGAGGCGCACCTTTACATTTTCTATCGTATC			2293
Invader	428-81-02	CCTTCCTTATCCTGGATCTTGGCA			2294
Arrestor	796-72-04	**GATACGATAGAAAATGTAAAGGTGCGC**			2295
Secondary Cassette		Set 6			
Probe	820-35-01	AACGAGGCGCACCTTTACATTTTCTATCG			2296
Probe	820-35-02	AACGAGGCGCACCTTTACATTTTCTATCGT			2297

FIG. 47A-69

Invader	428-81-02	CCTTCCTTATCCTGGATCTTGGCA		2298
Arrestor	820-35-03	**ACGATAGAAAATGTAAAGGTGCGC**		2299
Secondary Cassette		Set 7		
Probe	820-88-01	AACGAGGCGCACCTTTACATTTTCTATCGT-NH2	Same as 820-35-02 with 3' Amine	2300
Probe	820-88-02	AACGAGGCGCACCTTTACATTTTCTATCGT**U**	Same as 820-35-02 with O-Me U for Blocking	2301
Probe	820-88-03	AACGAGGCGCACCTTTACATTTTCTATCGT**G**	Same as 820-35-02 with O- Me G for Blocking	2302
Probe	820-88-04	AACGAGGCGCACCTTTACATTTTCTATCGTT	Same as 820-35-02 with T for Blocking. The T is a mismatch against the RNA sequence.	2303
Invader	428-81-02	CCTTCCTTATCCTGGATCTTGGCA		2304
Arrestor	820-35-03	**ACGATAGAAAATGTAAAGGTGCGC**		2305
Secondary Cassette		Set 7		
Probe	847-65-01	GCCGCACGCCGCTTTACATTTTCTATCGT		2306
Invader	428-81-02	CCTTCCTTATCCTGGATCTTGGCA		2307
Arrestor	847-65-02	**ACGATAGAAAATGTAAAGCGGCG**		2308
Arrestor	847-65-03	**ACGATAGAAAATGTAAAGCGGCGT**		2309
Secondary Cassette		Set 8		
Probe	936-61-01	AACGAGGCGCACCTTTACATTTTCTATCGTATCCG	Same as 428-87-01 without Biotin blocking group	2310
Invader	428-81-02	CCTTCCTTATCCTGGATCTTGGCA		2311
Arrestor	936-61-02	**CGGATACGATAGAAAATGTAAAGGTGCGC**	Same as 428-87-03 without Biotin blocking group	2312
Secondary Cassette		Set 7		
Monocyte Chemotactic Protein 1 (MCP-1)				
Probe	820-89-01	CCGTCACGCCTCCTTCGGAGTTTGGG	Same as 720-92-01 without the amine	2313
Invader	685-76-01	GGGTTGTGGAGTGAGTGTTCAAGTA		2314
Arrestor	820-89-02	**CCCAAACTCCGAAGGAGGCG**		2315
Secondary Cassette		Set 9		
MAGE-3				
Probe	1001-01-01	Fl-TTTTCTGGAAGCTTTGCT	Same analyte specific Region as 871-18-02.	2316
Invader	871-18-03	**CGATGCCAAAGACC**AGCTGCAAGGAAG		2317
Stacker	871-18-01	**GAAGATCACAGGAAAGAAATAC**		2318
Stacker	1138-50-01	**GCAGCTTCTTGGGA**		2319
Probe	1138-50-02	AACGAGGCGCACGTTGGGTGA		2320
Stacker	1138-50-03	**GCAGCTTCTTGGGACT**		2321
Probe	1138-50-04	AACGAGGCGCACGTTGGGTGAG		2322
Invader	1138-50-05	CTCCAGGTAGTTTTCCTGCACGAAATC		2323
Arrestor	1138-50-06	**CTCACCCAACGTGCGC**		2324
Secondary Cassette		Set 10		
Stacker	1138-51-01	**AGCTTCTTGGGATC**		2325
Probe	1138-51-02	AACGAGGCGCACTTGGGTGAGC		2326
Stacker	1138-51-03	**GCTTCTTGGGATCC**		2327
Probe	1138-51-04	AACGAGGCGCACTTGGGTGAGCA		2328
Invader	1138-51-05	CAGGTAGTTTTCCTGCACGAAATGA		2329
Arrestor	1138-51-06	**TGCTCACCCAAGTGCGC**		2330
Secondary Cassette		Set 11		
Stacker	1138-67-01	**TGCAGGATCACTGCC**		2331
Probe	1138-67-02	AACGAGGCGCACCACCAATTCATAACA		2332
Invader	1138-67-03	GGCCCTTGGACCCCAA		2333
Arrestor	1138-67-04	**TGTTATGAATTGGTGGTGCGC**		2334
Secondary Cassette		Set 11		
Stacker	1138-67-05	**CATGCAGGATCACTGC**		2335

FIG. 47A-70

Probe	1138-67-06	AACGAGGCGCACCACACCAATTCATAA		2336
Invader	1138-67-07	AGGGCCCTTGGACCCA		2337
Arrestor	1138-67-08	TTATGAATTGGTGTGGTGCGC		2338
Secondary Cassette		Set 11		
Human Oncostatin M				
Probe	339-30-02	CCTGGCGTATCTAGGGCTCCA		2339
Invader	264-42-03	GTGTTCAGGTTTTGGAGGCGGATAA		2340
Arrestor	374-32-01	CTTGGAGCCCTAGATAC-NH2		2341
Arrestor	374-32-02	CTTGGAGCCCTAGATACG-NH2		2342
Arrestor	374-32-03	CTTGGAGCCCTAGATACGC-NH2		2343
Secondary Cassette		Set 12		
Probe	524-39-01	CAGTCACGTCTCTTCAGGTTTTG-NH2	Same as 435-67-04 with 3' Amine	2344
Invader	395-05-07	AGGCAGCTCTCAGGTCAGGTGTGA		2345
Stacker	435-40-02	GAGGCGGATATAGGGCTCCA		2346
Arrestor	369-47-07	CAAAACCTGAAGAGACG-NH2		2347
Secondary Cassette		Set 13		
Probe	1088-74-01	AACGAGGCGCACCCTCTGTGTG		2348
Arrestor	1088-74-02	CACACAGAGGGTGCGC		2349
Probe	1088-74-03	AACGAGGCGCACCCTCTGTGTG-NH2		2350
Probe	1088-74-04	AACGAGGCGCACCCTCTGTGTG-HEX	HEX = Hexanediol	2351
Invader	603-75-03	GCAAGGACCAGACTGAGCAGCGTA		2352
Stacker	752-01-05	AGCAGTACCCCCATG		2353
Arrestor	641-62-04	CACACAGAGGGAGGCG-NH2		2354
Secondary Cassette		Set 10		
Probe	1138-49-02	AACGAGGCGCACCTTCTGGAG-NH2		2355
Stacker	1138-49-01	CTGGCCAAGGAG		2356
Invader	1138-49-03	GTCCTGCATGAGATCTGTCTGA		2357
Arrestor	1138-49-04	CTCCAGAAGGTGCGC		2358
Secondary Cassette		Set 11		
Probe	1138-49-06	AACGAGGCGCACTCTGCTTCT-NH2		2359
Stacker	1138-49-05	GGAGCTGGCCAA		2360
Invader	1138-49-07	TGGTGTCCTGCATGAGATCTGA		2361
Arrestor	1138-49-08	TCCAGAAGCAGAGTGCGC		2362
Secondary Cassette		Set 11		
Probe	1138-49-10	AACGAGGCGCACCATGAGATCT-NH2		2363
Stacker	1138-49-09	GTCTGCTTCTGGA		2364
Invader	1138-49-11	GAGTCTGCTGGTGTCCCTGA		2365
Arrestor	1138-49-12	AGATCTCATGGTGCGC		2366
Secondary Cassette		Set 11		
Stacker	1163-01-01	TGGCCAAGGAGCA		2367
Probe	1163-01-02	AACGAGGCGCACTTCTGGAGC-NH2		2368
Invader	1163-01-03	TCCTGCATGAGATCTGTCTGCA		2369
Arrestor	1163-01-04	GCTCCAGAAGTGCGC		2370
Secondary Cassette		Set 11		
Stacker	1163-01-05	GGCCAAGGAGCAC		2371
Probe	1163-01-06	AACGAGGCGCACTCTGGAGCT-NH2		2372
Invader	1163-01-07	CCTGCATGAGATCTGTCTGCTA		2373
Arrestor	1163-01-08	AGCTCCAGAGTGCGC		2374
Secondary Cassette		Set 11		
Stacker	1163-01-09	GCCAAGGAGCACG		2375
Probe	1163-01-10	AACGAGGCGCACCTGGAGCTC-NH2		2376

FIG. 47A-71

Invader	1163-01-11	CCTGCATGAGATCTGTCTGCTTA	2377
Arrestor	1163-01-12	**GAGCTCCAGGTGCGC**	2378
Secondary Cassette		Set 11	
84h6r			
Probe	688-51-01	CGCCGAGATCACGCCAACGACGGTCT	2379
Invader	688-51-02	AGCCCTTGAGTTTAATAACTTCATAGGCACTA	2380
Arrestor	688-51-03	**AGACCGTCGTTGGCGTGATC**	2381
Secondary Cassette		Set 14	
Probe	688-51-04	CGCCGAGATCACCTCAACACCATAAAAGCCA	2382
Invader	688-51-05	CGGGAGACTGAGGAATACGTCACCACCA	2383
Arrestor	688-51-06	**TGGCTTTTATGGTGTTGAGGTGATC**	2384
Secondary Cassette		Set 14	
MSH2			
Probe	690-32-02	CCGTCACGCCTCCGAACTGCCCTAG	2385
Invader	690-32-04	**GTATAAT**AGTCCCGACGATCAAAGAGGC	2386
Stacker	709-52-01	GGTCCTTGGGYAGGG	2387
Arrestor	690-32-05	**GCGGAGGCTTGACGGGATC**	2388
Secondary Cassette		Set 1	

FIG. 47A-72

bold indicates 2' O methyl base

SEQ ID NO

ELISA Format Kits
Leukocyte-associated molecule-1 alpha subunit, human (h-LFA1)
G4731 Probe Set

p	5'-CTCTCTCGTCTCCAGGGCGTCGTCGG-PO4-3'	2389
l	5'-CTGTCACACACGTCGGTGCTGA-3'	2390
c	5'-AAAAAGGAGACGAGAGAGTG-3'	2391

for the remainder of the oligo sets on this list, the fret/target secondary sets are one of the following 11:

FRET/TARGET SETS

	FRET	TARGET
set 1	307-70-03	502-93-01
set 2	307-70-03	502-93-02
set 3	187-46-01	641-60-02
set 4	187-46-01	277-68-05
set 5	187-46-01	685-56-01
set 6	187-46-01	641-60-03
set 7	187-46-01	649-10-01
set 8	680-17-02	782-70-02
set 9	187-46-01	277-68-06
set 10	187-46-01	491-02-02
set 11	307-70-03	761-40-02

FRETS

307-70-03	5'-Fam-ATTC(CY3)TCTCAGACT-NH2-3'	2392
187-46-01	5'-Fam-CAAC (CY3)GCTTCCTCCG-3'	2393
680-17-02	5'-Fam-CGCT (CY3)TCTCGCTCGC-3'	2394

TARGETS

502-93-01	5'-CAGTCTGAGATGAATGATACGAGAGAGT-NH2-3'	2395
502-93-02	5'-CAGTCTGAGATGAATGAGACGAGAGAGT-NH2-3'	2396
641-60-02	5'-CGGAGGAAGCAGTTGGAGGCGTGACGGT-NH2-3'	2397
277-68-05	5'-CGGAGGAAGCAGTTGGTGCGCCTCGTTAA-PO4-3'	2398
685-56-01	5'-GCGGAAGAAGCGGTTGGTGATCTCGGCGG-NH2-3'	2399
641-60-03	5'-CGGAAGAAGCAGTTGGAGGCGTGACGGT-NH2-3'	2400
649-10-01	5'-CGGAAGAAGCAGTTGGTGCGCCTCGTTAA-NH2-3'	2401

FIG. 47A-73

782-70-02	5'-GCGAGAGAGACAGCGCAAACCTGCCGTTC-3'	2402
277-68-06	5'-CGGAGGAAGCAGTTGTCCGCGAAGATG-3'	2403
491-02-02	5'-CGGAAGAAGCAGTTGGAGACGTGACTGTGG-NH2-3'	2404
761-40-02	5'-GGAGTGAGACAGCGAAAGACTGCCGTTCT-3'	2405
Cell Lysate Kits		
adipocyte lipid binding protein, mouse (m-aP2)		
C289 Probe Set	FRET/TARGET SET 1	
l	5'-CCGCCATCTAGGGTTATGATGCTA-3'	2406
p	5'-CTCTCTCGTCTCCTTCACCTTCCTGTCG-NH2-3'	2407
a	3'-PO4-**AGCAGAGGAAGTGGAAGGACAGC**-5'	2408
a	3'-NH2-**AGCAGAGGAAGTGGAAGGACAGC**-5'	2409
a	3'-PO4-**AGAGCAGAGGAAGTGGAAGGACAGC**-5'	2410
p	5'-AACGAGGCGCACCTTCACCTTCCTGTCG-NH2-3;	2411
p	5'-AACGAGGCGCACCTTCACCTTCCTGTCG-Biotin-3'	2412
a	3'-PO4-**CCGCGTGGAAGTGGAAGGACAGC**-5'	2413
a	3'-PO4-**CTCCGCGTGGAAGTGGAAGGACAGC**-5'	2414
p	5'-CATCTTCGCGGACTTCACCTTCCTGTCG-NH2	2415
a	3'-PO4-**GCCTGAAGTGGAAGGACAGC**-5'	2416
a	3'-PO4-**GCGCCTGAAGTGGAAGGACAGC**-5'	2417
p	5'CTTGCTCCCCGTGCTTCACCTTCCTGTCG-NH2	2418
p	5'CTTGCTCCCCGTGCTTCACCTTCCTGTCG-Biotin	2419
a	3'-PO4-**GGGCACGAAGTGGAAGGACAGC**-5'	2420
a	3'-PO4-**AGGGGCACGAAGTGGAAGGACAGC**-5'	2421
G392 Probe Set	FRET/TARGET SET 1	
p	5'-CTCTCTCGTCTCCACATTCCACCACCAG-NH2-3'	2422
l	5'-TTGTGTAAGTCACGCCTTTCATAAT-3'	2423
rev-ErbA, mouse (m-revErbA		
C155 Probe Set	FRET/TARGET SET 4	
p	5'-AACGAGGCGCACGAAGCAGGGTAATGAATCT-NH2-3'	2424
l	5'-CCACTCCTGAAGGCTCCGCAGTC-3'	2425
Carnitine palmitolytransferase, mouse (m-CPT-1)		
T352 Probe Set	FRET/TARGET SET 2	
p	5'-CTCTCTCGTCTCAATGCCTGTCGCC-NH2-3'	2426
l	5'-GCTTCAGGGTTTGTCGGAAGAAGAAC-3'	2427

FIG. 47A-74

C851 Probe Set	FRET/TARGET SET 2	
p	5'-CTCTCTCGTCTCGTTTGCGGCGATACAT-NH2-3'	2428
i	5'-CGGCTTGATCTCTTCACGGTCCAC-3'	2429
Carnitine palmitolytransferase, human (h-CPT-1)		
U744 Probe set	FRET/TARGET SET 2	
p	5'-CTCTCTCGTCTCAACTTCAAATACCACTGTAATCT-NH2-3'	2430
l	5'-CTCACGTAATTTGTAGCCCACCAGGAGTTTC-3'	2431
a	3'-NH2-GCAGAGTTGAAGTTTATGGTGACATTAGA-5'	2432
s	5'-**TGGTCCAAGACCGACAGCAAAATCTTGAG**-3'	2433
A456 Probe Set	FRET/TARGET SET 10	
p	5'-CAGTCACGTCTCTTCAGGGAGTAGCGCA-NH2-3'	2434
i	5'-CCCGTGGTAGGAGAGCAGCACTA-3'	2435
a	3'-NH2-**GCAGAGAAGTCCCTCATCGCGT**-5'	2436
C759 Probe Set	FRET/TARGET SET 2	
p	5'-CTCTCTCGTCTCGCCCACCAGGATT-NH2	2437
i	5'-CTCCCACCAGTCGCTCACGTAATTTGTAA-3'	2438
a	5'-AATCCTGGTGGGCGAGACG-B-3'	2439
s	5'-**TTAACTTCAAATACCACTGTAATCTTGGTCCAAGACCG**-3'	2440
G329 Probe Set	FRET/TARGET SET 4	
p	5'-ACCGAGGCGCACCAATTATTCCTAACG-b-3'	2441
i	5'-GCCGTTTCCAGAGTCCGATTGATTTTTGA-3'	2442
a	3'-(biotin)-**GCGGTGGTTAATAAGGATTGC**-5'	2443
C1763 Probe Set	FRET/TARGET SET 9	
p	5'-CATCTTCGCGGAGACATTTCTTGATGATTCCTT-3'	2444
i	5'-AAAGGTGTCTGGGCTCGTGCT-3'	2445
a	3'-(bioitn)-**GCCTCTGTAAAGAACTACTAAGGAA**-5'	2446
Phosphatidylinositol-3-phosphate p110 _, human (h-PI3Kp110_)		
G1045 Probe Set (FV Arm)	FRET/TARGET SET 4	
p	5'-AACGAGGCGCACCAGTTTCCTCTGTG-NH2-3'	2447
l	5'-GACCAGCCCTGACATGAACTTTTAC-3'	2448
a	3'-NH2-**CGCGTGGTCAAAGGAGACAC**-5'	2449

FIG. 47A-76

C1521 Probe Set	FRET/TARGET SET 2	
p	5'-CTCTCTCGTCTCGGGAGGGTAATAATAAGG-NH2-3'	2450
i	5'-GCTGCCTTTTCAATAATCTTATCGAAC-3'	2451
a	3'NH2-**AGCAGAGCCCTCCCATTATTATTCC**-5'	2452
C2667 Probe Set	FRET/TARGET SET 2	
p	5'-CTCTCTCGTCTCGTTGTATTCTTTAAGCCAG-NH2-3'	2453
i	5'-CGGTCCAGGTCATCCCCAGAC-3'	2454
a	3'NH2-**AGCAGAGCAACATAAGAAATTCGGTC**-5'	2455
G537 Probe Set	FRET/TARGET SET 2	
p	5'-CTCTCTCGTCTCCTCTGGTGGATATGTTTG-NH2-3'	2456
i	5'-CTAAGTTTTCAGGGATGGATGGTTCATGC-3'	2457
a	3'NH2-**AGCAGAGGAGACCACCTATACAAAC**-5'	2458
T3192 Probe Set	FRET/TARGET SET 2	
p	5'-CTCTCTCGTCTCAACTGTGTGGGC-NH2-3'	2459
i	5'-TTAAGATCTGTAGTCTTTCCGAAC-3'	2460
a	3'NH2-**AGCAGAGTTCACACACCCG**-5'	2461
Cartilage-derived morphogenic protein 1, human (h-CDMP1)		
A831 Probe Set	FRET/TARGET SET 6	
p	5'-CCGTCACGCCTCCTGTTGCCTCCC-(biotin)-3'	2462
l	5'-AGCCTCCAACTTCACGCTGT-3'	2463
a	5'-**GGGAGGCAACAGGAGGCG**-(biotin)-3'	2464
A1691 Probe Set	FRET/TARGET SET 5	
p	5'-CCGCCGAGATCACTGAAGAGGATGCTGATGG-(biotin)-3'	2465
l	5'-ACACCACGTTGTTGGCAGAGTCAAG-3'	2466
a	5'-**CCATCAGCATCCTCTTCAGTGATCTCGG**-(biotin)-3'	2467
b-actin, rat (r-bACT)		
C1671 Probe Set (longer)	FRET/TARGET SET 6	
p	5'-CCGTCACGCCTCGCCTTAGGGTTCA-NH2-3'	2468
l	5'-TCTGGGTCATCTTTTCACGGTTGA-3'	2469
a	3'-**GCGGAGCGGAATCCCAAGT**-5'	2470
s	5'-**GAGGGGCCTCGGTGAGC**-3'	2471

FIG. 47A-77

Bile Salt port Pump, rat (r-BSEP)	FRET/TARGET SET 5	
p	5'-CCGCCGAGATCACGAGTTCTTGCCTTTC-(biotin)-3'	2472
p	5'-CCGCCGAGATCACGAGTTCTTGCCTTTC-NH3-3'	2473
l	5'-TTCACACACGCTTTTCCTGGTATCTCC-3'	2474
a	3'-(biotin)-**CTAGTGCTCAAGAACGGAAAG**-5'	2475
G1288 Probe Set	FRET/TARGET SET 2	
p	5'-CTCTCTCGTCTCCCAGAAGGCCAGT-(biotin)-3'	2476
l	5'-TTCTTCATCTAGGACAAGTGTGGAACCATAA-3'	2477
a	5'-**ACTGGCCTTCTGGGAGACG**-(biotin)-3'	2478
A790 Probe Set	FRET/TARGET SET 6	
p	5'-CCGTCACGCCTCTTTCCTCATTCTCCT-(biotin)-3'	2479
l	5'-CCCAATTTCCATTCTCATTATTCTCCGGAAGTAAATC-3'	2480
a	5'-**AGGAGAATGAGGAAAGAGGCG**-(biotin)-3'	2481
Nitric Oxide Synthase 2A, human (h-iNOS2)		
A3418 Probe Set	FRET/TARGET SET 6	
p	5'-CCGTCACGCCTCTGTCTTTCTTCGC-(biotin)-3'	2482
l	5'-GCTGCACCGCCACCCC-3'	2483
a	5'-**GCGAAGAAAGACAGAGGCG**-(biotin)-3'	2484
Neutral Carboxy Ester Hydrolase, human (h-NCEH)		
A1221 Probe Set	FRET/TARGET SET 7	
p	5'-AACGAGGCGCACTCTTCTTATTCTCCTG-B-3'	2485
p	5'-AACGAGGCGCACTCTTCTTATTCTCCTG-NH2-3'	2486
i	5'-GTCTCAAAGTCCACCACAGTCTC-3'	2487
s	5'-**CAGGAGAATAAGAAGAGTGCGC**-(biotin)-3'	2488
A1221 Probe Set	FRET/TARGET SET 6	
p	5'-CCGTCACGCCTCTCTTCTTATTCTCC-3'	2489
p	5'-CCGTCACGCCTCTCTTCTTATTCTCC-NH2-3'	2490
i	5'-GTCTCAAAGTCCACCACAGTCTC-3'	2491
a	3'-**GCGGAGAGAAGAATAAGAGG**-5'	2492
s	5'-**TGGGATGGGTCCTGGGC**-3'	2493

FIG. 47A-78

C1309. Probe Set	FRET/TARGET SET 8	
p	5'-GAACGGCAGGTTTGGCACTCTTGGCATT-NH2-3'	2494
i	5'-**CAGGTAGGCG**TAGGTCTTGA-3'	2495
a	3'-NH2-**CGTCCAAACCGTGAGAACCGTAA**-5'	2496
s	5'-**GGCTCTGTGCTGGGCTA**-NH2-3'	2497
Peroxisomal Proliferation Activator Protein Receptor alpha, human (h-PPAR_)		
G1480 Probe Set	FRET/TARGET SET 6	
p	5'-CCGTCACGCCTCCCGACTCCGTCT-(biotin)-3'	2498
l	5'-CGGGTGCAGCGCAGCATT-3'	2499
a	5'-**AGACGGAGTCGGGAGGCG**-(biotin)-3'	2500
A1044 Probe Set	FRET/TARGET SET 6	
p	5'-CCGTCACGCCTCTGTCACTTGATCGTTCT-(biotin)-3'	2501
i	5'-TGGCCTCATAAACTCCGTATTTTAGCAAG-3'	2502
a	5'-**AGAACGATCAAGTGACAGAGGCG**-(biotin)-3'	2503
C 1311 Probe Set	FRET/TARGET SET 6	
p	5'-CCGCCGAGATCACGTGTCCTACGTTTAGAAG-(biotin)-3'	2504
i	5'-CACATGTACAATACCCTCCTGCATTTTTTCAATC-3'	2505
a	5'-**CTTCTAAACGTAGGACACGTGATCTCGG**-(biotin)-3'	2506
Peroxisomal Proliferation Activator Protein Receptor beta, human (h-PPAR_)		
A595 Probe set	FRET/TARGET SET 6	
6B. Designed truncated probe and stackers to reduce temperature		
p	5'-CCGTCACGCCTCTCTTCTGAATCTTGC-3'	2507
l	5'-CTGGCACTTGTTGCGGTTCTA-3'	2508
a	3'-NH2-**GCGGAGAGAAGACTTAGAACG**-5'	2509
s	5'-**AGCTGCGCTCACACTTCTCGT**-3'	2510
	FRET/TARGET SET 6	
6C. Design for new INVADER assay with 50% 2'-Me.		
p	5'-CCGTCACGCCTCTCTTCTGAATCTTG-NH2-3'	2511
i	5'-**CTGGCACTTGT**TGCGGTTCTA-3'	2512
a	3'-NH2-**GCGGAGAGAAGACTTAGAAC**-5'	2513
s	5'-**CAGCTGCGCTCACACTTCTCGT**-NH2-3'	2514

FIG. 47A-79

6D. Truncate probe.
p
i
s

FRET/TARGET SET 6
5'-CCGTCACGCCTCTCTTCTGAATCTT-NH2-3' 2515
5'-**CCTGGCACTTGT**TGCGGTTCTA-3' 2516
5'-**GCAGCTGCGCTCACACTTCTCGT**-NH2-3' 2517

C891 Probe Set
p
i
a
s

FRET/TARGET SET 7
5'-AACGAGGCGCACGGTAGGCATTGTAGA-3' 2518
5'-CCTTCTTTTTGGTCATGTTGAAGTTTTTCAC-3' 2519
3'-**CGCGTGCCATCCGTAACATCT**-5' 2520
5'-**TGTGCTTGGAGAAGGCCTTCA**-3' 2521

Substance P, rat (r-SubP)
C344 Probe Set
p
I
a
s

FRET/TARGET SET 6
5'-CCGTCACGCCTCGCCACTTGTTTTTCA-NH2-3' 2522
5'-CCATGCCCATAAAGAGCCTTTAACAGGA-3' 2523
3'-NH2-**GCGGAGCGGTGAACAAAAAGT**-5' 2524
NO STACKER

A396 Probe Set
p
i
a
s

FRET/TARGET SET 6
5'-CCGTCACGCCTCTTTATGCCTTTTGTGA-NH2-3' 2525
5'-TGCCCATTAGTCCAACAAAGGAATCTGTA-3' 2526
3'-GCGGAGAAATACGGAAAACACT-5' 2527
5'-GAGATCTGACCATGCCCATAAAGAGCC-NH2-3' 2528

C752 Probe Set
p
i
a
s

FRET/TARGET SET 7
5'-AACGAGGCGCACGCTGGCAAACTTGT-NH2-3' 2529
5'-CCTTTCTGTCTTTGGAGACTTGCATCA-3' 2530
3'-NH2-**CGCGTGCGACCGTTTGAACA**-5' 2531
5'-ACAACTCCATCAACACTGTGCTTTGCTG-NH2-3' 2532

Hepatic Lipase, human (h-LIPC)
A830 Probe Set
p
I
a
s

FRET/TARGET SET 7
5'-AACGAGGCGCACTCTAGGAAGTGGCA-NH2-3' 2533
5'-**GTGCTGGGCAATATGTC**TGTAGAGCG-3' 2534
3'-NH2-**CGCGTGAGATCCTTCACCGT**-5' 2535
5'-**GCCAGGCTGGAAGGAGC**-NH2-3' 2536

C1154 Probe Set

FRET/TARGET SET 5

FIG. 47A-80

p	5'-CCGCCGAGATCACCGTCTCAGTTTGGT-NH2-3'	2537
i	5'-CGAGTAGTGACATGGTAAAAGTTGTTTGTATTGGCT-3'	2538
a	3'-NH2-**CTCTAGTGGCAGAGTCAAACCA**-5'	2539
Hepatic Lipase, rat (r-LIPC)		
G357 Probe Set	FRET/TARGET SET 5	
p	5'-CCGCCGAGATCACCACGTTCACGGGTT-NH2-3'	2540
i	5'-**GGGAGATCCAGTCC**ACTAATCCA-3'	2541
a	3'-NH2-**TCTAGTGGTGCAAGTGCCCAA**-5'	2542
s	5'-**GGGACTGTCGGGACTTCAGG**-NH2-3'	2543
C1167 Probe Set	FRET/TARGET SET 8	
p	5'-GAACGGCAGGTTTGGGGAATTTTCTTTATTTCTT-NH2-3'	2544
i	5'-**ATTCCTTCGCCC**AGGGTGATG-3'	2545
a	3'-NH2-**GTCCAAACCCCTTAAAAGAAATAAAGAA**-5'	2546
s	5'-**CTTTTGTCCCCAGCAGTGT**-NH2-3'	2547
Metabotropic Glutamate Receptor 2, rat (r-mGluR2)		
C1403 Probe Set	FRET/TARGET SET 7	
p	5'-AACGAGGCGCACGGTGGTGTTGGGA-NH2-3'	2548
l	5'-**GCCTCATAGCATCG**CAGAGGTGT-3'	2549
a	3'-NH2-**CGCGTGCCACCACAACCCT**-5'	2550
s	5'-**CAGAGGGCACGGTGCATGTTGT**-NH2-3'	2551
G-protein coupled receptor 2, rat (r-ETBR-LP2)		
A1629 Probe set	FRET/TARGET SET 8	
p	5'-GAACGGCAGGTTTGTCAGCAGACCGC-NH2-3'	2552
l	5'-**GAGAGGCCAAAGTGAGACCATG**TGAAAGAAA-3'	2553
a	3'-NH2-**CGTCCAAACAGTCGTCTGGCG**-5'	2554
s	5'-**CATGGATCGGCATGGCCCC**-NH2-3'	2555
i kappa b alpha, human (h-MAD3)		
C542 Probe Set	FRET/TARGET SET 7	
p	5'-AACGAGGCGCACGGTGTAGGGGGG-(biotin)-3'	2556
l	5'-GCCCTGCTCACAGGCAAT-3'	2557
a	5'-**CCCCCCTACACCGTGCGC**-(biotin)-3'	2558
C363 Probe Set	FRET/TARGET SET 6	

FIG. 47A-81

P	5'-CCGTCACGCCTCGTCAGTGCCTTTTC-(biotin)-3'	2559
I	5'-CACCTGGCGGATCACTTCCATGT	2560
A	5'-**GAAAAGGCACTGACGAGGCG**-(biotin)-3'	2561
G953 Probe Set	FRET/TARGET SET 6	
P	5'-CCGTCACGCCTCCCTCATCCTCACT-(biotin)-3'	2562
I	5'-ACTCTGACTCTGTGTCATAGCTCTT	2563
A	**5'-AGTGAGGATGAGGGAGGCG-(biotin)-3'**	2564
C923 Probe Set	FRET/TARGET SET 7	
P	5'-AACGAGGCGCACGGTTTTCTAGTGTCA-NH2-3'	2565
I	5'-**CTCACTCTCTGGCAGC**ATCTGAAT-3'	2566
A	**3'-NH2-CGCGTGCCAAAAGATCACAGT-5'**	2567
S	**5'-GCTGGCCCAGCTGC-NH2-3'**	2568
Lecithin cholesterol acyltransferase, human (h-LCAT)		
C821 Probe Set (truncated Probe Design)	FRET/TARGET SET 5	
p	5'-CCGCCGAGATCACGGTTATGCGCTG-NH2-3'	2569
I	5'-**CCAGGGG**GAGGTGGTC-3'	2570
a	3'-NH2-**TCTAGTGCCAATACGCGACG**-5'	2571
s	5'-**CTCCTCTTTCAGCTTGATGCTGG**-NH2-3'	2572
C827 Probe Design	FRET/TARGET SET 8	
p	5'-GAACGGCAGGTTTGGGTGGTGGTTATGCG-NH2-3'	2573
I	5'-**AGAGGGAAACATC**CAGGGGGAG-3'	2574
a	3'-NH2-**CGTCCAAACCCACCACCAATACGC**-5'	2575
C1217 Probe Design	FRET/TARGET SET 5	
p	5'-CCGCCGAGATCACGAGATGCTGTATCCC-NH2-3'	2576
I	5'-GGTCAGGTTGCTGAAGACCATGTTG-3'	2577
a	3'-NH2-**TCTAGTGCTCTACGACATAGGG**-5'	2578
Apolipoprotein A-1, human (h-ApoA1)		
A177 Probe Set	FRET/TARGET SET 6	
p	5'-CCGTCACGCCTCTGAGCACATCCACG-NH2-3'	2579
I	5'-ACATAGTCTCTGCCGCTGTCTTA-3'	2580
a	**3'-NH2-GCGGAGACTCGTGTAGGTGC-5'**	2581
s	**5'-TACACAGTGGCCAGGTCCTT-NH2-3'**	2582

FIG. 47A-82

A227 Probe Set (titrate length of 2'-O-Me in Invader)	FRET/TARGET SET 8	
p	5'-GAACGGCAGGTTTGTCCCAAGGCGG-NH2-3'	2583
l	5'-**GTCAAGGAGCTTT**AGGTTTAGCTGTTTA-3'	2584
i	5'-**GTCAAGGATCTTTAGGTTTA**GCTGTTTA-3'	2585
i	5'-**GTCCCAGTTGTCAAGGATCTTTAGGTTTA**GCTGTTTA-3'	2586
A	**3'-NH2-GTCCAAACAGGGTTCCGCC-5'**	2587
s	**5'-AGCCTTCAAACTGGGACACATAGTCTC-NH2-3'**	2588
G350 Probe Set	FRET/TARGET SET 5	
p	5'-CCGCCGAGATCACTTCTGTCTCCTT-NH2-3'	2589
l	5'-CTCCTGCCTCAGGCCG-3'	2590
a	3'-NH2-**TCTAGTGGAGACAGAGGAA**-5'	2591
s	5'-**TTCCAGGTTATCCCAGAACTCC**-NH2-3'	2592
G233 Probe Set	FRET/TARGET SET 11	
p	5'-AGAACGGCAGTCTTTCTGTTTTCCCAAGG-NH2-3'	2593
l	5'-**CCAGTTGTCAAGGAGCTTT**AGGTTTAGT-3'	2594
a	**3'-NH2-CGTCAGAAAGACAAAAGGGTTCC-5'**	2595
s	**5'-CGGAGCCTTCAAACTGGGACACATAGT-NH2-3'**	2596
Metabotropic Glutamate Receptor 1, rat (r-mGluR1) T934 Probe Set	FRET/TARGET SET 11	
p	5'-AGAACGGCAGTCTTTAGAATAGGCGATCTGT-NH2-3'	2597
l	5'-CACTCAGGTCTATGCTTGTGGCT-3'	2598
a	**3'-NH2-GTCAGAATCTTATCCGCTAGACA-5'**	2599
s	**5'-GGGATGTCGAACAGCTGGAGAAGATTCT-NH2-3'**	2600
Ubiquitin, human (h-UBIQ) G119 Probe Set (MO4 Arm)	FRET/TARGET SET 6	
p	5'-CCGTCACGCCTCCTTTACATTTTCTATCGTATCCG-(biotin)-3'	2601
l	5'-CCTTCCTTATCCTGGATCTTGGCA-3'	2602
a	**3'-(biotin)-GCGGAGGAAATGTAAAAGATAGCATAGGC-5'**	2603
G119 Probe Set	FRET/TARGET SET 5	
p	5'-CGCCGAGATCACCTTTACATTTTCTATCGTATCCG-(biotin)-3'	2604
i	5'-CCTTCCTTATCCTGGATCTTGGCA-3'	2605
a	**3'-(biotin)-CTAGTGGAAATGTAAAAGATAGCATAGGC-5'**	2606

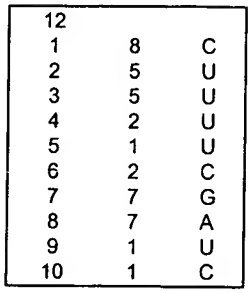
FIG. 47A-83

G131 Probe Set	FRET/TARGET SET 9	
p	5'-CATCTTCGCGGACTGGATCTTGGCC-(biotin)-3'	2607
l	5'-GCTGATCAGGAGGAATTCCTTCCTTATCT-3'	2608
a	**3'-(biotin)-GCCTGACCTAGAACCGG-5'**	2609
Scanned G119 region (ELISA format (No Arrestors)		
p	5'-CTCTCTCGTCTCTTACATTTTCTATCGTATCCGA-NH2-3'	2610
p	5'-CTCTCTCGTCTCTTTACATTTTCTATCGTATCCG-NH2-3'	2611
p	5'-CTCTCTCGTCTCCTTTACATTTTCTATCGTATCCG-NH2-3'	2612
p	5'-CTCTCTCGTCTCCCTTTACATTTTCTATCGTATC-NH2-3'	2613
p	5'-CTCTCTCGTCTCGCCTTTACATTTTCTATCG-NH2-3'	2614
l	5'-GGAATTCCTTCCTTATCCTGGATCTTGA-3'	2615
i	5'-GGAATTCCTTCCTTATCCTGGATCTTGGC-3'	2616
i	5'-CCTTCCTTATCCTGGATCTTGGCA-3'	2617
i	5'-TTCCTTATCCTGGATCTTGGCCA-3'	2618
i	5'-TCCTTATCCTGGATCTTGGCCTA-3'	2619
Ubiquitin, mouse (m-UBIQ)		
G294 Probe Set	FRET/TARGET SET 7	
p	5'-CCGTCACGCCTCCCTTCTGGATGTTGTA-(biotin)-3'	2620
l	5'-CCAGGTGCAGGGTTGACTA-3'	2621
a	**3'-(biotin)-GCGGAGGGAAGACCTACAACAT-5'**	2622
G294 Probe Set	FRET/TARGET SET 5	
p	5'-CGCCGAGATCACCCTTCTGGATGTTGTA-(biotin)-3'	2623
l	5'-CCAGGTGCAGGGTTGACTA-3'	2624
a	**3'-(biotin)-CTAGTGGGAAGACCTACAACAT-5'**	2625
G294 Probe Set	FRET/TARGET SET 6	
p	5'-CCGTCACGCCTCCCTTCTGGATGTTGTAAT-NH2-3'	2626
l	5'-CCAGGTGCAGGGTTGACTA-3'	2627
a	**3'-NH2-GCGGAGGGAAGACCTACAACATTA-5'**	2628

FIG. 47A-84

G294 Probe Set	FRET/TARGET SET 6	
p	5'-CCGTCACGCCTCCCTTCTGGATGTTGTAATC-NH2-3'	2629
i	5'-CCAGGTGCAGGGTTGACTA-3'	2630
a	3'-NH2-**GCGGAGGGAAGACCTACAACATTAG**-3'	2631
T514 Probe Set	FRET/TARGET SET 7	
p	5'-AACGAGGCGCACATGTTGTAATCAGAGAGGG-NH2-3'	2632
i	5'-TGCAGGGTTGACTCTTTCTGGA-3'	2633
a	**3'-NH2-CGCGTGTACAACATTAGTCTCTCCC-5'**	2634
G750 Probe Set	FRET/TARGET SET 9	
p	5'-CATCTTCGCGGACCTTCTGGATGTTGTA-NH2-3'	2635
l	5'-GGACCAGGTGCAGGGTTGACTT-3'	2636
a	**3'-NH2-GCCTGGAAGACCTACAACAT-5'**	2637
G185 Probe Set	FRET/TARGET SET 9	
p	5'-CATCTTCGCGGACTTCACGTTCTCGATGG-NH2-3'	2638
l	5'-CCCTCTTTATCCTGGATCTTGGCA-3'	2639
a	**3'-NH2-GCGCCTGAAGTGCAAGAGCTACC-5'**	2640

FIGURE 48



12		
1	8	C
2	5	U
3	5	U
4	2	U
5	1	U
6	2	C
7	7	G
8	7	A
9	1	U
10	1	C

FIG. 49A-1

	Secondary system	Oligo Sequence (5' to 3')	SEQ ID NO
	FRET probe	FL-CAC-Z28-TGC TTC GTG G	3175
	Secondary Reaction Template 1	CCA GGA AGC AAG TGG TGC GCC TCG ttt	3176
	Secondary Reaction Template 2	CCA GGA AGC AAG TGG AGG CGT GAC ggt	3177

Assays	SRT #	Oligo Type	Oligo Sequence (5' to 3')	SEQ ID NO
human CYP3A4	2	Probe	5'-CCG TCA CGC CTC GCC CCA CA-NH2-3'	654
		Probe	5'-CCG TCA CGC CTC GCC CCA CA-HEX-3'	3178
		Invader	5'-CAG CAC AGG CTG TTG ACC ATC ATA AAA C-3'	655
		Stacker	5'-cttttccatacttttttatgacattc-3'	656
		Stacker	5'-cttttccatacttttttatgacattc HEX-3'	3179
		Arrestor	5'-tgtggggcgaggcg-3'	657
		Arrestor	5'-tgtggggcgaggcg HEX-3'	3180
		Arrestor	5'-tgtggggcgaggcG -3'	3181
human CYP2C9	2	Probe	5'-CCG TCA CGC CTC ATG GAT AAT GCC C-NH2-3'	646
		Probe	5'-CCG TCA CGC CTC ATG GAT AAT GCC C-HEX-3'	3182
		Invader	5'-CAG GTG AGA AAA GGC ATT ACA GAT AGT GAA AGC-3'	647
		Stacker	5'-CAG AGG AAA GAG AGC TGC AGG G-3'	648
		Stacker	5'-cag agg aaa gag agc tgc agg g HEX -3'	3183
		Arrestor	5'-gggcattatccatgaggcg -3'	649
		Arrestor	5'-gggcattatccatgaggcg HEX-3'	3184
		Arrestor	5'-gggcattatccatgaggcG -3'	3185
h/r CYP1A2	1	Probe	5'-AAC GAG GCG CAC GGA CTG TTT TCT GC-NH2-3'	671
		Invader	5'-cttgtcaaagtcctgatAGTGCTCCTC-3'	672
		Invader	5'-cttgttgaagtcttgatAGTGTTCCTC-3'	673
		Arrestor	5'-gcagaaaacagtccgtgcgc-3'	674
		Arrestor	5'-gcagaaaacagtccgtgcgc HEX-3'	3186

FIG. 49A-2

rat CYP2B2	2	Probe	5'-CCG TCA CGC CTC AGA GCC AAT CAC-NH2-3'	679
		Probe	5'-CCG TCA CGC CTC AGA GCC AAT CAC-HEX-3'	3187
		Invader	5'-CGA TCA TCA AGG GAT GGT GGC CTG TGC-3'	680
		Stacker	5'-CTG ATC AAT CTC CTT TTG GAC TTT CTC TGC G-3'	681
		Stacker	5'-CTG ATC AAT CTC CTT TTG GAC TTT CTC TGC G HEX-3'	3188
		Arrestor	5'-gtgattggctctgaggcg -3'	682
		Arrestor	5'-gtgattggctctgaggcg HEX-3'	3189
		Arrestor	5'-gtgattggctctgaggcG -3'	3190
human CYP2B6	2	Probe	5'- CCG TCA CGC CTC CAC CAT ATC CC-NH2-3'	638
		Probe	5'- CCG TCA CGC CTC CAC CAT ATC CC-HEX-3'	3191
		Invader	5'-CCA GCG GTT TCC ATT GGC AAA GAT CAA-3'	639
		Stacker	5'-cggaagaatgggtcgaccatg-3'	640
		Stacker	5'-cggaagaatgggtcgaccatg HEX-3'	3192
		Arrestor	5'-gggatatggtggaggcg-3'	641
		Arrestor	5'-gggatatggtggaggcg HEX-3'	3193
		Arrestor	5'-gggatatggtggaggcG -3'	3194
rat CYP4A3	1	Probe	5'-AAC GAG GCG CAC TTG ACA GAG TCC-NH2-3'	1454
		Invader	5'-GCT TCT CCC ATT TGT CTA GCA TTA TAA-3'	1459
		Stacker	5'-GCC ATG ATT TTG ACA TAG GGT TTG AGG ATG-3'	1460
		Stacker	5'-GCC ATG ATT TTG ACA TAG GGT TTG AGG ATG HEX-3'	3195
		Arrestor	5'-ggactctgtcaagtgcgc-3'	1458
		Arrestor	5'-ggactctgtcaagtgcgc HEX-3'	3196

FIG. 49A-3

human NR1I2	1	Probe	5'- AACGAGGCGCACGCAACTCGCA NH2-3'	3197
		Probe	5'- AACGAGGCGCACGCAACTCGCA HEX-3'	3198
		Probe	5'- AACGAGGCGCACGCAACTCGCA 3-morpholino1,2-propanediol-3'	3199
		Probe	5'- AACGAGGCGCACGCAACTCGCA 1,2-octanediol-3'	3200
		Probe	5'- AACGAGGCGCACGCAACTCGCA methoxyphenyl-3'	3201
		Probe	5'- AACGAGGCGCACGCAACTCGCA amine(C3)-3'	3202
		Probe	5'- AACGAGGCGCACGCAACTCGCA amine(C6)-3'	3203
		Invader	5'- GGCCTGCAGAGACTCTGC -3'	3204
		Stacker	5'- gccactgctaagcac -3'	3205
		Arrestor	5'- tgcgagttgcgtgcgc -3'	3206
human ABCC2	1	Probe	5'- AAC GAG GCG CAC CTC CAA TCT CA NH2-3'	3207
			5'- AAC GAG GCG CAC CTC CAA TCT CA HEX-3'	3208
			5'- AAC GAG GCG CAC CTC CAA TCT CA 3-morpholino1,2-propanediol-3'	3209
			5'- AAC GAG GCG CAC CTC CAA TCT CA 1,2 octanediol-3'	3210
			5'- AAC GAG GCG CAC CTC CAA TCT CA methoxyphenyl-3'	3211
			5'- AAC GAG GCG CAC CTC CAA TCT CA amine(C3)-3'	3212
			5'- AAC GAG GCG CAC CTC CAA TCT CA amine(C6)-3'	3213
		Invader	5'- CCC CCA CTA AGA TTT ATA CCC TTC TA -3'	3214
		Stacker	5'- gcc aaa tct cct cca -3'	3215
		Arrestor	5'-tga gat tgg agg tgc gc -3'	3216

FIG. 49A-4

		Secondary system	Oligo Sequence (5' to 3')	SEQ ID NO
		FRET probe	FL-CAC-Z28-TGC TTC GTG G	3217
		Secondary Reaction Template 1	CCA GGA AGC AAG TGG TGC GCC TCG ttt	3218
		Secondary Reaction Template 2	CCA GGA AGC AAG TGG AGG CGT GAC ggt	3219
		Secondary Reaction Template 3	CCA GGA AGC AAG TGA CGC AGC GAC ggt	3220
Assay	**SRT #**	**Oligo Type**	**Oligo Sequence (5' to 3')**	**SEQ ID NO**
Human CYP 2B6	1	Probe	AACGAGGCGCACCACCATATCC-NH_2	3221
		Invader	CCAGCGGTTTCCATTGGCAAAGATCAA	639
		Stacker	ccggaagaatgggtcgaccatg	3222
		Arrestor	ggatatggtggtgcgc	3223
		Stacker	ccggaagaatgggtcgac	3224
Human CYP 2B6 e6	2	Probe	CCGTCACGCCTCGGTTGAGGTTC-NH_2	3225
		Invader	CAGCAAAGAAGAGCGAGAGCGTGTTGAC	1911
		Stacker	tggtggctgaattcactgtg	3226
		Arrestor	gaacctcaaccgaggcg	3227
		Stacker	tggtggctgaattcact	3228
	2	Probe	CCGTCACGCCTCGGTTGAGGTT-NH_2	3229
		Stacker	ctggtggctgaattcactgtg	3230
		Arrestor	aacctcaaccgaggcg	3231
		Stacker	ctggtggctgaattcac	3232
Human CYP 2E1	1	Probe	AACGAGGCGCACCGAGCCCA-NH_2	3233
		Invader	GCATCACCACCATGCGCTGA	3234
		Stacker	cgtacagcgtgaacaccg	3235
		Arrestor	gcatcaccaccatgcgctga	3236

FIG. 49A-5

	1	Probe	AACGAGGCGCACCCTGAGTGC-NH_2	3237
		Invader	GCTGGCCTTGGGTCTTA	3238
		Stacker	ttccagcaggaagtg	3239
		Arrestor	gcactcagggtgcgc	3240
	1	Probe	AACGAGGCGCACCCACGAGCA-NH_2	3241
		Invader	CTGTGCTTTTCCTTCTCCATTTA	3242
		Stacker	ggcagtcggtgagg	3243
		Arrestor	tgctcgtgggtgcgc	3244
	1	Probe	AACGAGGCGCACTTGGCACTAC-NH_2	3245
		Invader	GGTTGTCATACAAAACAGAGTCCAGAGA	3246
		Invader	gtcatacaaaacaGAGTCCAGAGA	3247
		Stacker	gactgtgcccttgg	3248
		Arrestor	gtagtgccaagtgcgc	3249
Rat CYP 4A2	1	Probe	AACGAGGCGCACTTGGCAGGACA-NH_2	3250
		Invader	gctacagaaatgagggcaAAAAGATGAGA	3251
		Stacker	ctcagcagaaggatgg	3252
		Arrestor	tgtcctgccaagtgcgc	3253
		Stacker	ctcagcagaggatgg	3254
	2	Probe	CCGTCACGCCTCTTGGCAGGACA-NH_2	3255
		Arrestor	tgtcctgccaagaggcg	3256
	1	Probe	AACGAGGCGCACTTGGCAGGAC-NH_2	3257
		Stacker	actcagcagaaggatgg	3258
		Arrestor	gtcctgccaagtgcgc	3259
	1	Probe	AACGAGGCGCACTTGGCAGGA-NH_2	3260
		Stacker	cactcagcagaaggatgg	3261
		Arrestor	tcctgccaagtgcgc	3262

FIG. 49A-6

Rat CYP 4A2	1	Probe	AACGAGGCGCACCCGATTGTCC-NH_2	3263
		Invader	gatttctaagaacattttaATTCATGATGA	3264
		Stacker	caagactctgagaactgaagg	3265
		Arrestor	ggacaatcgggtgcgc	3266
	2	Probe	CCGTCACGCCTCCCGATTGTCC-NH_2	3267
		Arrestor	ggacaatcgggaggcg	3268
Rat CYP 4A2	1	Probe	AACGAGGCGCACTACTATTATTTCATAG-NH_2	3269
		Invader	CATTTCTATCTACTGTTCTGCATCAGA	3270
		Stacker	aaaagatgaggcatacattaatttc	3271
		Arrestor	ctatgaaataatagtagtgcgc	3272
	1	Probe	AACGAGGCGCACTACTATTATTTCATAGA-NH_2	3273
		Stacker	aaagatgaggcatacattaatttc	3274
		Arrestor	tctatgaaataatagtagtgcgc	3275
	2	Probe	CCGTCACGCCTCTACTATTATTTCATAGA-NH_2	3276
		Arrestor	tctatgaaataatagtagaggcg	3277
Rat CYP 4A2	1	Probe	AACGAGGCGCACAGGTGTCTGGAG-NH_2	3278
		Invader	GGTCCACGCACAAGCTGGGAC	3279
		Stacker	taaaagctacagaaatgagggc	3280
		Arrestor	ctccagacacctgtgcgc	3281
	2	Probe	CCGTCACGCCTCAGGTGTCTGGAG-NH_2	3282
		Arrestor	ctccagacacctgaggcg	3283
	1	Probe	AACGAGGCGCACAGGTGTCTGGAGT-NH_2	3284
		Stacker	aaaagctacagaaatgagggc	3285
		Arrestor	actccagacacctgtgcgc	3286

FIG. 49A-7

Rat CYP Pan 3A	2	Probe	CCGTCACGCCTCGTTCCTGGG-NH_2	2028
		Invader (degenerate)	GAGCAAACCTCATGYCAATRCAC	3287
		Stacker (degnerate)	tccattYccaaagggcag	3288
		Arrestor	cccaggaacgaggcg	2034
Rat CYP 4A3	1	Probe	AACGAGGCGCACTTTTGCTCCC-NH_2	3289
		Invader	GGTCATAGAGCAGGACTCGTGA	3290
		Stacker	tgagagccactgtaag	3291
		Arrestor	gggagcaaaagtgcgc	3292
	2	Probe	CCGTCACGCCTCTTTTGCTCCC-NH_2	3293
		Arrestor	gggagcaaaagaggcg	3294
Rat CYP 4A3	1	Probe	AACGAGGCGCACGTTGTGATACCTT-NH_2	3295
		Invader	gatgaaggccataaattAAAATTGTGC	3296
		Stacker	tgggtatggaacgtcc	3297
		Arrestor	aaggtatcacaacgtgcgc	3298
	2	Probe	CCGTCACGCCTCGTTGTGATACCTT-NH_2	3299
		Arrestor	aaggtatcacaacgaggcg	3300
	1	Probe	AACGAGGCGCACTTGTGATACCTTT-NH_2	3301
		Invader	gatgaaggccataaattaAAATTGTGGA	3302
		Stacker	gggtatggaacgtccat	3303
		Arrestor	aaaggtatcacaagtgcgc	3304
	2	Probe	CCGTCACGCCTCTTGTGATACCTTT-NH_2	3305
		Arrestor	aaaggtatcacaagaggcg	3306

FIG. 49A-8

Rat CYP 4A3	1	Probe	AACGAGGCGCACCCATAGGGACC-NH_2	3307
		Invader	CCATTCTTGGACTTCAACACAAGTCTTGA	3308
		Stacker	gggatcctggtgg	3309
		Arrestor	ggtccctatgggtgcgc	3310
	2	Probe	CCGTCACGCCTCCCATAGGGACC-NH_2	3311
		Arrestor	ggtccctatgggaggcg	3312
Rat CYP 4A3	1	Probe	AACGAGGCGCACATGACGGGACAC-NH_2	3313
		Invader	GCTACAGAAATGAGGGCAAAAAAATGAGC	3314
		Stacker	tcagcagaggatggg	3315
		Arrestor	gtgtcccgtcatgtgcgc	3316
	2	Probe	CCGTCACGCCTCATGACGGGACAC-NH_2	3317
		Arrestor	gtgtcccgtcatgaggcg	3318
Human/Mouse HES-1	1	Probe	AACGAGGCGCACTGACTTTCTGTG-NH_2	3319
		Invader	CGTCTTTTCTCCATAATAGGCTTTGAA	3320
		Stacker	atcagatgctgtctttggt	3321
		Arrestor	cacagaaagtcagtgcgc	3322
		Stacker	gtcagatgctgtctttggt	3323
		Stacker	ctaagatgctgtctttggt	3324
		Stacker	ctgagatgctgtctttggt	3325
		Stacker	atcagaggccgtctttggt	3326
		Stacker	atcagaggccgtctttg	3327
rat HSP70-1,2	1	Probe	5'- AAC GAG GCG CAC CCG GTT CTC NH2-3'	3328
		Invader	5'- GAT CTC CTC CGG GTA GAA CGA A -3'	3329
		Stacker	5'- gcc ctt gta gtt cac -3'	3330
		Arrestor	5'-gag aac cgg gtg cgc -3'	3331
rat HSP70-1,2	1	Probe	AACGAGGCGCACACTCGAAGC-NH_2	3332
		Invader	GGCGGGATGCCGCTCAC	3333
		Stacker	gccccagcagg	3334
		Arrestor	gcttcgagtgtgcgc	3335

FIG. 49A-9

rat HSP70-1,2	1	Probe	AACGAGGCGCACGGTACGCCT-NH_2	3336
		Invader	CACCGGGTGGCCCAC	3337
		Stacker	cggcgatctccttca	3338
		Arrestor	aggcgtaccgtgcgc	3339
	1	Probe	AACGAGGCGCACGGTACGCCTC-NH_2	3340
		Stacker	ggcgatctccttcat	3341
		Arrestor	gaggcgtaccgtgcgc	3342
	2	Probe	CCGTCACGCCTCGGTACGCCTC-NH_2	3343
		Arrestor	gaggcgtaccgaggcg	3344
	1	Probe	AACGAGGCGCACGTACGCCTC-NH_2	3345
		Invader	ACCGGGTGGCCCAGC	3346
		Arrestor	gaggcgtacgtgcgc	3347
	3	Probe	CCGTCGCTGCGTGCTCAACTC-NH_2	3348
		Invader	GCCGGCGGGATGCCC	3349
		Stacker	gaagcgccccag	3350
		Arrestor	gagttgagcacgcagc	3351
rat HSP70-1,2,3	1	Probe	AACGAGGCGCACCAGCACCATG-NH_2	3352
		Invader	GCGATCTCCTTCATCTTGGTA	3353
		Invader	CAGTCTCCTTCATCTTGGTA	3354
		Stacker	gcgatctccttcatcttggta	3355
		Arrestor	catggtgctggtgcgc	3356
rat HSP70-1,2,3	1	Probe	AACGAGGCGCACCATGGCCC-NH_2	3357
		Invader	CAGGTTGTTGTCGCGCGTA	3358
		Invader	GAGGTTGTTGTCGCGCGTA	3359
		Stacker	tctcgccctcgta	3360
		Arrestor	gggccatggtgcgc	3361

FIG. 49A-10

rat HSP70-1,2,3	1	Probe	AACGAGGCGCACCACCTGGATCA-NH_2	3362
		Invader	CCCTCTCGCCCTCGTAA	3363
		Stacker	gcaccccgggc	3364
		Arrestor	tgatccaggtggtgcgc	3365
rat HSP70-1,2,3	1	Probe	AACGAGGCGCACTCAGCACCA-NH_2	3366
		Invader	GGCGATCTCCTTCATCTTGGA	3367
		Invader	TGCAGTCTCCTTCATCTTGGA	3368
		Stacker	tggacgagatctcctc	3369
		Arrestor	tggtgctgagtgcgc	3370
Human AGC 1,2	1	Probe	AACGAGGCGCACCCACTAGCTC-NH_2	3371
		Invader	AGTTCAGTTCCTGAAGGGAGTA	3372
		Stacker	tcccactaatgtccagc	3373
		Arrestor	gagctagtgggtgcgc	3374
Human AGC 1,2	1	Probe	AACGAGGCGCACCCTTGTCTC-NH_2	3375
		Invader	CGTCCTCACACCAGGAAACTCATA	3376
		Stacker	catagcagccttcc	3377
		Arrestor	gagacaagggtgcgc	3378
rat GRM1	1	Probe	AACGAGGCGCACCTTCTCATCTC-NH_2	3379
		Invader	GCATCGGTTCAGCCCATCA	3380
		Stacker	ggatggaaatcagggagt	3381
		Arrestor	gagatgagaaggtgcgc	3382
	2	Probe	CCGTCACGCCTCCTTCTCATCTC-NH_2	3383
		Arrestor	gagatgagaaggaggcg	3384
	3	Probe	CCGTCGCTGCGTCTTCTCATCTC-NH_2	3385
		Arrestor	gagatgagaagacgcag	3386

FIG. 49A-11

rat GRM1	1	Probe	AACGAGGCGCACCCTTCTCATC-NH_2	3387
		Invader	GCATCGGTTCAGCCCATA	3388
		Stacker	tcggatggaaatcagggag	3389
		Arrestor	gatgagaagggtgcgc	3390
	2	Probe	CCGTCACGCCTCCCTTCTCATC-NH_2	3391
		Arrestor	gatgagaagggaggcg	3392
rat GRM2	1	Probe	AACGAGGCGCACGAGAGATGAGGAGAGGG-NH_2	3393
		Invader	GGGCCAGGAAAGGACAGACAGGAAA	3394
		Arrestor	ccctctcctcatctctcgtgcgc	3395
rat GRM2	1	Probe	AACGAGGCGCACGAGAGATGAGGAGAGG-NH_2	3396
		Invader	GCCAGGAAAGGACAGACAGGAAC	3397
		Arrestor	cctctcctcatctctcgtgcgc	3398
rat GRM5	1	Probe	AACGAGGCGCACTGGAGGAAACTCAG-NH_2	3399
		Invader	ggaattcaagctaataaaGATATCATGAA	3400
		Stacker	agctccaataggtacagcc	3401
		Arrestor	ctgagtttcctccagtgcgc	3402
rat GRM5	1	Probe	AACGAGGCGCACTCCTTTCCAAG-NH_2	3403
		Invader	CAAGAGTGTGGGATCTGAGTTGAA	3404
		Stacker	gtatgcagcatggcc	3405
		Arrestor	cttggaaaggagtgcgc	3406
		Stacker	gtatgcagcatggcctcctc	3407
rat GRM5	1	Probe	AACGAGGCGCACTCGGCCCA-NH_2	3408
		Invader	CCATCTGTCACGTCATACCTGA	3409
		Stacker	gccatcactgccc	3410
		Arrestor	tgggccgagtgcgc	3411
		Invader	ccatctgtcacGTCATACCTGA	3412

FIG. 49A-12

rat GRM7	1	Probe	AACGAGGCGCACGTCCTGTGC-NH_2	3413
		Invader	AGTCTTTTCCAATTCGCTCCTC	3414
		Stacker	atttgcgatctgtgtcttc	3415
		Arrestor	gcacaggacgtgcgc	3416
	2	Probe	CCGTCACGCCTCGTCCTGTGC-NH_2	3417
		Arrestor	gcacaggacgaggcg	3418
rat TAC1	1	Probe	AACGAGGCGCACCTTCTTTCATAAG-NH_2	3419
		Invader	CTTCTTTCGTAGTTCTGCATTGCGA	3420
		Stacker	ccacagaatttaaagctcttttg	3421
		Arrestor	cttatgaaagaaggtgcgc	3422
	2	Probe	CCGTCACGCCTCCTTCTTTCATAAG-NH_2	3423
		Arrestor	cttatgaaagaaggaggcg	3424
rat CYP 7A1	2	Probe	CCG TCA CGC CTC GTC TTG GCC-NH2	3425
		Invader	5' GCC CAG AGA ATA GCG AGG TGC A 3'	3426
		Stacker	5' ttc tcc atg tcg tca aag gtg g 3'	3427
		Arrestor	5' ggc caa gac gag gcg 3'	3428
human PPAR-alpha	1	Probe	AACGAGGCGCACCTTTCAGTTTTG-NH_2	3429
		Invader	TCTATGTCATGTTCACAGGTAAGAATTTCTGA	3430
		Stacker	ctttctcagatcttggc	3431
		Arrestor	caaaactgaaaggtgcgc	3432
	2	Probe	CCGTCACGCCTCCTTTCAGTTTTG-NH_2	3433
		Arrestor	caaaactgaaaggaggcg	3434

FIG. 49A-13

		Secondary system	Oligo Sequence (5' to 3')	SEQ ID NO
		FRET probe	FL-CAC-Z28-TGC TTC GTG G	3435
		Secondary Reaction Template 1	CCA GGA AGC AAG TGG TGC GCC TCG ttt	3436
		Secondary Reaction Template 2	CCA GGA AGC AAG TGG AGG CGT GAC ggt	3437
		Secondary Reaction Template 3	CCA GGA AGC AAG TGA CGC AGC GAC ggt	3438
Assays	**SRT #**	**Oligo Type**	**Oligo Sequence (5' to 3')**	**SEQ ID NO**
rat GPCR/CNS2	1	Probe	AACGAGGCGCACTCAGTGGAGAG - NH2	3439
		Invader	GGTCTGCCTCGTGAGCA	3440
		Stacker	gtaagccaccacgatg	3441
		Arrestor	tctccactgagtgcgc	3442
human P53AIP1	1	Probe	5'- AACGAGGCGCACCCAGGTGTG-NH2-3'	3443
		Invader	5' -TCACTGCAGGGACTTACCCAGA- 3'	3444
		Stacker	tgtgtctgagccc	3445
		Arrestor	acacctgggtgcgc	3446
	1	Probe	AACGAGGCGCACCCAGGTGT NH2	3447
		Stacker	gtgtgtctgagccc	3448
human P53AIP1	1	Probe	AACGAGGCGCACCCTTCCTCT NH2	3449
		Invader	GGAGGAGGAGGGCTGGA	3450
		Stacker	tgggactattgatcaggg	3451
		Arrestor	agaggaagggtgcgc	3452
human P53AIP1	1	Probe	AACGAGGCGCACCTTCATTATTGGC NH2	3453
		Invader	CCACAAGCTTCCGAGTGCGTCATA	3454
		Stacker	cacaggaaacgacttcttgg	3455
		Arrestor	gccaataatgaaggtgcgc	3456

FIG. 49A-14

human P53AIP1	1	Probe	AACGAGGCGCACCGCTGCGT NH2	3457
		Invader	GGCCCTGCACCTCAGAA	3458
		Stacker	gtgagcttctgggg	3459
		Arrestor	acgcagcggtgcgc	3460
mouse LLPL	1	Probe	AACGAGGCGCACCTGTCCGTC NH2	3461
		Invader	CAGATTCAGCCAGAGTGTGAAGTAGA	3462
		Stacker	ttcttggagcaaaggtag	3463
		Arrestor	agacggacaggtgcgc	3464
	1	Probe	AACGAGGCGCACCTGTCCGTCT NH2	3465
		Stacker	tcttggagcaaaggtagt	3466
mouse LLPL	1	Probe	AACGAGGCGCACCCAGAGTGTG NH2	3467
		Invader	GCAGAAGCAGTTCCAGATTCAGA	3468
		Stacker	aagtagctgtccgtct	3469
		Arrestor	cacactctgggtgcgc	3470
	1	Probe	AACGAGGCGCACCCAGAGTGT NH2	3471
		Stacker	gaagtagctgtccgtc	3472
mouse LLPL	1	Probe	AACGAGGCGCACCAGAAAGTAGAGCA NH2	3473
		Invader	AGACTTGTGGCTGCCGCTGA	3474
		Stacker	tgtacacgttgcccatg	3475
		Arrestor	tgctctactttctggtgcgc	3476

FIG. 49A-15

		Secondary system	Oligo Sequence (5' to 3')	SEQ ID NO
		FRET probe	FL-CAC-Z28-TGC TTC GTG G	3477
		Secondary Reaction Template 1	CCA GGA AGC AAG TGG TGC GCC TCG ttt	3478
		Secondary Reaction Template 2	CCA GGA AGC AAG TGG AGG CGT GAC ggt	3479
		Secondary Reaction Template 3	CCA GGA AGC AAG TGA CGC AGC GAC ggt	3480
Assays	**SRT #**	**Oligo Type**	**Oligo Sequence (5' to 3')**	**SEQ ID NO**
mArbp	1	Probe	AACGAGGCGCACCATGCGGATCT NH2	3481
		Invader	gccttccCTCGGAGCGAA	3482
		Stacker	gctgcatctgcttgga	3483
		Arrestor	agatccgcatggtgcgc	3484
mArbp	1	Probe	AACGAGGCGCACCTGCACATCAC NH2	3485
		Invader	CACCTTGTCTCCAGTCTTTATCAGA	3486
		Stacker	tcagaatttcaatggtgcc	3487
		Arrestor	gtgatgtgcaggtgcgc	3488
mArbp	1	Probe	AACGAGGCGCACCTGCACATCACT NH2	3489
		Stacker	cagaatttcaatggtgcct	3490
mArbp	1	Probe	AACGAGGCGCACCTCCACAGACAA NH2	3491
		Invader	CAGTAAGTGGGAAGGTGTACTCAGTA	3492
		Stacker	tgccaggacgcgct	3493
		Arrestor	ttgtctgtggaggtgcgc	3494
mArbp	1	Probe	AACGAGGCGCACCTCCAGGTG NH2	3495
		Invader	TCTCCAGAGCTGGGTTGTTA	3496
		Stacker	gcccctgatagcc	3497
		Arrestor	acctggaggtgcgc	3498

FIG. 49A-16

mArbp	1	Probe	AACGAGGCGCACCATGCGGATCTG NH2	3499
		Invader	GCCTTCCCTCGGAGCGAA	3500
		Stacker	ctgcatctgcttggag	3501
		Arrestor	cagatccgcatggtgcgc	3502
mArbp	1	Probe	AACGAGGCGCACACATGCGGATCT NH2	3503
		Invader	GCCTTCCCTCGGAGCGC	3504
		Stacker	gctgcatctgcttgg	3505
		Arrestor	agatccgcatgtgtgcgc	3506
rABCB11	2	Probe	CCGTCACGCCTCCCATTATGCTACA NH2	3507
		Invader	TTGTCCCCGTACTTGATGTTGTA	3508
		Stacker	gtcaaacagcactggc	3509
		Arrestor	tgtagcataatgggaggcg	3510
rABCB11	1	Probe	AACGAGGCGCACCCATTATGCTACA NH2	3511
		Arrestor	tgtagcataatgggtgcgc	3512
rABCB11	1	Probe	AACGAGGCGCACGGAGACAATCC NH2	3513
		Invader	GTCAAACAGCACTGGCTCCTGC	3514
		Stacker	cgatgttggaacggaggaac	3515
		Arrestor	ggattgtctccgtgcgc	3516
rABCB11	2	Probe	CCGTCACGCCTCGGAGACAATCC NH2	3517
		Arrestor	ggattgtctccgaggcg	3518
rABCB11	1	Probe	AACGAGGCGCACGGATTCCGTAT NH2	3519
		Invader	AGCCATATCCAGAAGCAAGATCTTGC	3520
		Stacker	gagggctcgggc	3521
		Arrestor	atacggaatccgtgcgc	3522
rABCB11	2	Probe	CCGTCACGCCTCGGATTCCGTAT NH2	3523
		Arrestor	atacggaatccgaggcg	3524

FIG. 49A-17

hAPOA1	1	Probe	AACGAGGCGCACCTTCTGGC NH2	3525
		Invader	CTCTTGCAGCTCGTGCAGA	3526
		Stacker	gcgcgccctct	3527
		Arrestor	gccagaaggtgcgc	3528
hAPOA1	1	Probe	AACGAGGCGCACCTTCTGGCG NH2	3529
		Stacker	cgcgccctcttg	3530
hAPOA1	1	Probe	AACGAGGCGCACCGCTGTAGG NH2	3531
		Invader	GCTGGCGCAGCTCGTA	3532
		Stacker	gggccagatgcgt	3533
		Arrestor	cctacagcggtgcgc	3534
hLCAT	1	Probe	AACGAGGCGCACCTCAGCCTT NH2	3535
		Invader	GGCCGTGTGTGGTTACTGAGA	3536
		Stacker	gggcgtggtgtgc	3537
		Arrestor	aaggctgaggtgcgc	3538
hLCAT		Probe	AACGAGGCGCACCTCAGCCTTG NH2	3539
		Stacker	ggcgtggtgtgcg	3540
hLCAT	1	Probe	AACGAGGCGCACCAGCCTTGG NH2	3541
		Invader	CCGTGTGTGGTTACTGAGCTA	3542
		Stacker	gcgtggtgtgcgg	3543
		Arrestor	ccaaggctggtgcgc	3544
hlVL	1	Probe	AACGAGGCGCACGCTCCTTC NH2	3545
		Invader	GCTCCTGCTCCTGTGC	3546
		Stacker	tgctgttgctcacattc	3547
		Arrestor	gaaggagcgtgcgc	3548
hlVL		Probe	AACGAGGCGCACGCTCCTTCT NH2	3549
		Stacker	gctgttgctcacattct	3550

FIG. 49A-18

hIVL	2	Probe	CCGTCACGCCTCGCTCCTTCTGC NH2	3551
		Invader	CAGCTCCTGCTCCTGTGC	3552
		Stacker	TGTTGCTCACATTCTTGCTCAGGC	3553
		Arrestor	gcagaaggagcgaggcg	3554
rGPR37	1	Probe	AACGAGGCGCACCTGGACGTTG NH2	3555
		Invader	GGAAGAACAATTTTCAATCATTTCATAGTACATA	3556
		Stacker	gtggcagcccg	3557
		Arrestor	caacgtccaggtgcgc	3558
rGPR37	1	Probe	AACGAGGCGCACATCATTTCATAGTACA NH2	3559
		Invader	GGCAGTGGTGGAAGAACAATTTTCAC	3560
		Stacker	tctggacgttggtgg	3561
		Arrestor	tgtactatgaaatgatgtgcgc	3562
rGPR37	1	Probe	AACGAGGCGCACATCATTTCATAGTACATCT-NH2	3563
		Invader	agtttggcagtggtggaagaaCAATTTTCAG	3564
		Stacker	ggacgttggtggcagccc	3565
		Arrestor	agatgtactatgaaatgatgtgcgc	3566
rEsr2 (rER Beta)	1	Probe	AACGAGGCGCACCTCTAGTGATCT NH2	3567
		Invader	CTCTCTGTTTACAGGTAAGGTGTGA	3568
		Stacker	tgcttcacaccaaggac	3569
		Arrestor	agatcactagaggtgcgc	3570
rEsr2 (rER Beta)	2	Probe	CCGTCACGCCTCCTCTAGTGATCTTGCT-NH2	3571
		Invader	GTCTCTCTGTTTACAGGTAAGGTGTGG	3572
		Arrestor	agcaagatcactagaggaggcg	3573

FIG. 49A-19

		Secondary system	Oligo Sequence (5' to 3')	SEQ ID NO
		FRET probe	FL-CAC-Z28-TGC TTC GTG G	3574
		Secondary Reaction Template 1	CCA GGA AGC AAG TGG TGC GCC TCG ttt	3575
		Secondary Reaction Template 2	CCA GGA AGC AAG TGG AGG CGT GAC ggt	3576
		Secondary Reaction Template 3	CCA GGA AGC AAG TGA CGC AGC GAC ggt	3577
Assays	**SRT #**	**Oligo Type**	**Oligo Sequence (5' to 3')**	**SEQ ID NO**
human PTGS2	1	Probe	5'-AACGAGGCGCACAGAGGTTAGAGAAG-NH2-3'	3578
		Invader	5'-GGAGGAAGGGCTCTAGTATAATAGGC-3'	3579
		Stacker	5'-gcttcccagcttttgtagc -3'	3580
		Arrestor	5'-cttctctaacctctgtgcgc -3'	3581
human FACL1,2	2	Probe	5'-CCGTCACGCCTCGTTGGCTCTTCCC-NH2-3'	3582
		Invader	5'-GGCTTGGGCTTCCGTCTC-3'	3583
		Arrestor	5'-gggaagagccaacgaggcg-3'	3584
rat RPS29	2	Probe	5'-CCGTCACGCCTCGCCTATGTCCTT NH2-3'	3585
		Invader	5'-AGGTCGCTTAGTCCAACTTAATGAAC-3'	3586
		Stacker	5'-cgcgtactgacggaagcactgtc-3'	3587
		Arrestor	5'-aaggacataggcgaggcg-3'	3588
human RPL5	1	Probe	5'-AACGAGGCGCACGCTTCCGATGTACT NH2-3'	3589
		Invader	5'-GCATGTAATCTGCAACATTCTGGCCCATGATGTA-3'	3590
		Stacker	5'-TCTGCATTAAATTCCTTGCTTTCAGAATCATAACCAGGG-3'	3591
		Arrestor	5'-agtacatcggaagcgtgcgc-3'	3592
	1	Probe	5'-AACGAGGCGCACGCTTCCGA NH2-3'	3593
		Invader	5'-GCAACATTCTGGCCCATGATGTC-3'	3594
		Stacker	5'-tgtacttctgcattaaattcct-3'	3595
		Arrestor	5'-tcggaagcgtgcgc-3'	3596

FIG. 49A-20

	1	Probe	5'-AACGAGGCGCACCTTCCGAT NH2-3'	3597
		Invader	5'-GCAACATTCTGGCCCATGATGTGA-3'	3598
		Stacker	5'-gtacttctgcattaaattcct-3'	3599
		Arrestor	5'-atcggaaggtgcgc-3'	3600
human CD36	2	Probe	5'-CCGTCACGCCTCCTCTTTGCTTAAC NH2-3'	3601
		Invader	5'-CATTTTCCTTGGCTAGAAAACGAACTCTGTACGTATAAGGACA-3'	3602
		Stacker	5'-ttgaatgttgctgctgttcatcatca-3'	3603
		Arrestor	5'-gttaagcaaagaggaggcg-3'	3604
human ALOX15	2	Probe	5'-CCGTCACGCCTCCGATTCCTTCCA NH2-3'	3605
		Invader	5'-CACGTCTGTCTTATAGTGGAGACTCAA-3'	3606
		Stacker	5'-CATACCGATAGATGATTTCCCAGAGCCGC-3'	3607
		Arrestor	5'-tggaaggaatcggaggcg-3'	3608
	1	Probe	5'-AACGAGGCGCACCGAACAGTGT NH2-3'	3609
		Arrestor	5'-acactgttcggtgcgc-3'	3610
	2	Probe	5'-CCGTCACGCCTCCGAACAGTGT NH2-3'	3611
		Arrestor	5'-acactgttcggaggcg-3'	3612
		Invader	5'-GCAGGGAGAAGTCAGCTTA-3'	3613
		Stacker	5'-gcctccctcca-3'	3614
	1	Probe	5'-AACGAGGCGCACGTACTCGTAGG NH2-3'	3615
		Arrestor	5'-cctacgagtacgtgcgc-3'	3616
	2	Probe	5'-CCGTCACGCCTCGTACTCGTAGG NH2-3'	3617
		Arrestor	5'-cctacgagtacgaggcg-3'	3618
		Invader	5'-CACGCTGGGCCGCAGC-3'	3619
		Stacker	5'-gcatgtccagctttg-3'	3620
human EF1alpha	2	Probe	5'-CCGTCACGCCTCTTGTAGACATCCTG NH2-3'	3621
		Invader	5'-GCCAACAGGAACAGTACCAATACCACCAATTA-3'	3622
		Stacker	5'-GAGAGGCAGGCGCAAGGG-3'	3623
		Arrestor	5'-caggatgtctacaagaggcg-3'	3624

FIG. 49A-21

mouse ABCA1	2	Probe	5' CCGTCACGCCTCCCCGTTTTC-NH2 3'	3625
		Arrestor	5' gaaaacggggaggcg 3'	3626
	1	Probe	5'-AACGAGGCGCACCCCGTTTTC NH2-3'	3627
		Arrestor	5'-gaaaacggggtgcgc-3'	3628
		Invader	5' GGGCATCTGTTGCACGTAGACAA 3'	3629
		Stacker	5' ttctcagatcccgtc 3'	3630
	2	Probe	5'-CCGTCACGCCTCCCCGTTTTCT NH2-3'	3631
		Invader	5' GGGCATCTGTTGCACGTAGACAA 3'	3632
		Stacker	5'-tctcagatcccgtca-3'	3633
		Arrestor	5'-agaaaacggggaggcg-3'	3634
human ABCC2	1	Probe	5'- AAC GAG GCG CAC CTC CAA TCT CA NH2-3'	3635
		Invader	5'- CCC CCA CTA AGA TTT ATA CCC TTC TA -3'	3636
		Stacker	5'- gcc aaa tct cct cca -3'	3637
		Arrestor	5'-tga gat tgg agg tgc gc -3'	3638
	1	Probe	5'-AACGAGGCGCACTCGGACTGT NH2-3'	3639
		Invader	5'-GCCATAATGTCCAGGTTCACATCA-3'	3640
		Stacker	5'-ggcttccgaatcatgtt-3'	3641
		Arrestor	5'-acagtccgagtgcgc-3'	3642
	1	Probe	5'-AACGAGGCGCACCAAACCTGTTCA NH2-3'	3643
		Invader	5'-CATCCACTGTGGAAATATCGCCGGA-3'	3644
		Stacker	5'-caatccggcctgtg-3'	3645
		Arrestor	5'-tgaacaggtttggtgcgc-3'	3646
human NR1I2	1	Probe	5'- AACGAGGCGCACGCAACTCGCA NH2-3'	3647
		Invader	5'- GGCCTGCAGAGACTCTGC -3'	3648
		Stacker	5'- gccactgctaagcac -3'	3649
		Arrestor	5'- tgcgagttgcgtgcgc -3'	3650

FIG. 49A-22

	1	Probe	5'-AACGAGGCGCACCCTCTCTGA NH2-3'	3651
		Invader	5'-GCCTTTTAAAAGGAAAGGGCAACCTTGA-3'	3652
		Stacker	5'-tggtcctgacctaca-3'	3653
		Arrestor	5'-tcagagagggtgcgc-3'	3654
	1	Probe	5'-AACGAGGCGCACGATAGCCAG NH2-3'	3655
		Invader	5'-TGCATCCTTCACATGTCATGACATTGAAGTC-3'	3656
		Stacker	5'-tggccttgtccc-3'	3657
		Arrestor	5'-ctggctatcgtgcgc-3'	3658
	1	Probe	5'-AACGAGGCGCACGCAGTGTCT-3'	3659
		Invader	5'-AAGTTGCTGGAAGCCACCTC-3'	3660
		Stacker	5'-tccaagcagtaggaca-3'	3661
		Arrestor	5'-agacactgcgtgcgc-3'	3662
human ABCB1	1	Probe	5'- AAC GAG GCG CAC CAT CCA GAG NH2-3'	3663
		Invader	5'- CCT CCA AAA GGA AAC TGG AGG TAT ACT TTA -3'	3664
		Stacker	5'- cct ctt tgg tac taa gc -3'	3665
		Arrestor	5'- ctc tgg atg gtg cgc -3'	3666
	1	Probe	5'-AACGAGGCGCACCTTCTATTAGTGA NH2-3'	3667
		Invader	5'-CAGATTCATGAAGAACCCTGTATCATTGATATCAA-3'	3668
		Stacker	5'-tgtttgacatcagatcttctaaat-3'	3669
		Arrestor	5'-tcactaatagaaggtgcgc-3'	3670
	1	Probe	5'-AACGAGGCGCACAATATCCTGTCC NH2-3'	3671
		Invader	5'-CCCGTAGAAACCTTACATTTATGGTCCTC-3'	3672
		Stacker	5'-atcaacactgaccatcccctctgt-3'	3673
		Arrestor	5'-ggacaggatattgtgcgc-3'	3674

FIG. 49A-23

	1	Probe	5'-AACGAGGCGCACCATTTCCTGCTG NH2-3'	3675
		Invader	5'-GATTCATCAGCTGCATTTTCTAATTCAACTTA-3'	3676
		Stacker	5'-tctgcattgtgacaagtttg-3'	3677
		Arrestor	5'-cagcaggaaatggtgcgc-3'	3678
	2	Probe	5'-CCGTCACGCCTCCATCCAGAG NH2-3'	3679
		Invader	5'-CCTCCAAAAGGAAACTGGAGGTATACTTTA-3'	3680
		Stacker	5'-cctctttggtactaagc-3'	3681
		Arrestor	5'-ctctggatggaggcg-3'	3682
h3A4	1	Probe	5'-AACGAGGCGCACCTTTCAAGGTG NH2-3'	3683
		Invader	5'-CTGTAGGCCCCAAAGACGTA-3'	3684
		Stacker	5'-acaggcttgcctgt-3'	3685
		Arrestor	5'-caccttgaaaggtgcgcctcgtt-3'	3686
	1	Probe	5'-AACGAGGCGCACTTCACTCCAAAT NH2-3'	3687
		Invader	5'-TCTTGTGGATTGTTGAGAGAGTCGATGA-3'	3688
		Stacker	5'-gatgtgctagtgatcacatc-3'	3689
		Arrestor	5'-atttggagtgaagtgcgcctcgtt-3'	3690
	1	Probe	5'-AACGAGGCGCACTCACTCCAAAT NH2-3'	3691
		Invader	5'-TTGTGGATTGTTGAGAGAGTCGATGTA-3'	3692
		Stacker	5'-gatgtgctagtgatcacatc-3'	3693
		Arrestor	5'-atttggagtgagtgcgcctcgtt-3'	3694
	1	Probe	5'-AACGAGGCGCACCATAATGAAGGAGAG NH2-3'	3695
		Invader	5'-GGGTGAGTGGCCAGTTCATAA-3'	3696
		Stacker	5'-aacactgctcgtggttt-3'	3697
		Arrestor	5'-ctctccttcattatggtgcgc-3'	3698

FIG. 49A-24

	1	Probe	5'-AACGAGGCGCAGATAATGAAGGAGAG NH2-3'	3699
		Invader	5'-GGTGAGTGGCCTGTTCATACC-3'	3700
		Stacker	5'-aacactgctcgtggttt-3'	3701
		Arrestor	5'-ctctccttcattatctgcgc-3'	3702
	1	Probe	5'-AACGAGGCGCACGAGAGCAAACCT NH2-3'	3703
		Invader	5'-ACTCTGATTAGAGCAAGTTTCATGTTCATC-3'	3704
		Stacker	5'-catgccaatgcagtttct-3'	3705
		Arrestor	5'-aggtttgctctcgtgcgc-3'	3706
h3A7	1	Probe	5'-AACGAGGCGCACGTTTCAAGGTG NH2-3'	3707
		Invader	5'-CTGTAGGCCCCAAAGACGTC-3'	3708
		Stacker	5'-acaggcttgcctgt-3'	3709
		Arrestor	5'-caccttgaaacgtgcgcctcgtt-3'	3710
	1	Probe	5'-AACGAGGCGCACTTTCAAGGTG NH2-3'	3711
		Invader	5'-CTGTAGGCCCCAAAGACGTGA-3'	3712
		Stacker	5'-acaggcttgcctgt-3'	3713
		Arrestor	5'-caccttgaaagtgcgcctcgtt-3'	3714
	1	Probe	5'-AACGAGGCGCACCTCACTCCAAAT NH2-3'	3715
		Invader	5'-TCTTGTGGATTGTTGAGAGAGTCGATGA-3'	3716
		Stacker	5'-gatgtgctagtgatcacatc-3'	3717
		Arrestor	5'-atttggagtgaggtgcgcctcgtt-3'	3718
	1	Probe	5'-AACGAGGCGCACTATAATGAAGGAGAG NH2-3'	3719
		Invader	5'-GGGTGAGTGGCCAGTTCATAA-3'	3720
		Stacker	5'-aacactgctcgtggttt-3'	3721
		Arrestor	5'-ctctccttcattatagtgcgc-3'	3722

FIG. 49A-25

	1	Probe	5'-AACGAGGCGCAGATAATGAAGGAGAG NH2-3'	3723
		Invader	5'-GGGTGAGTGGCCAGTTCATATC-3'	3724
		Stacker	5'-aacactgctcgtggttt-3'	3725
		Arrestor	5'-ctctccttcattatctgcgc-3'	3726
	1	Probe	5'-AACGAGGCGCACCGAGAGCAAACC NH2-3'	3727
		Invader	5'-TCTGACTAGAGCAAGTTTCATGTTCAA-3'	3728
		Stacker	5'-tcatgccaatgcagtttc-3'	3729
		Arrestor	5'-ggtttgctctcggtgcgc-3'	3730
	1	Probe	5'-AACGAGGCGCAGGAGAGCAAACCT NH2-3'	3731
		Invader	5'-TCTGACTAGAGCAAGTTTCATGTTCACC-3'	3732
		Stacker	5'-catgccaatgcagtttct-3'	3733
		Arrestor	5'-aggtttcgtctcctgcgc-3'	3734
rat SLC10A1	1	Probe	5'-AACGAGGCGCACAGCATGATAAGCA NH2-3'	3735
		Arrestor	5'-tgcttatcatgctgtgcgc-3'	3736
	2	Probe	5'-CCGTCACGCCTCAGCATGATAAGCA NH2-3'	3737
		Arrestor	5'-tgcttatcatgctgaggcg-3'	3738
		Invader	5'-GGTGCAGCCCAGTGAGC-3'	3739
		Stacker	5'-gcaacattaacaccaggatgat-3'	3740
human CD36	1	Probe	5'-AACGAGGCGCACGGAGGTGAATTAG NH2-3'	3741
		Arrestor	5'-ctaattcacctccgtgcgc-3'	3742
	2	Probe	5'-CCGTCACGCCTCGGAGGTGAATTAG NH2-3'	3743
		Arrestor	5'-ctaattcacctccgaggcg-3'	3744
		Invader	5'-TCACAGCCCATTTTTCTTGTTCAC-3'	3745
		Stacker	5'-tgttaagcacctgtttct-3'	3746
	1	Probe	5'-AACGAGGCGCACGGAGGTGAATTA NH2-3'	3747
		Arrestor	5'-taattcacctccgtgcgc-'3	3748
	2	Probe	5'-CCGTCACGCCTCGGAGGTGAATTA NH2-3'	3749
		Arrestor	5'-taattcacctccgaggcg-3'	3750
		Invader	5'-TCACAGCCCATTTTTCTTGTTCAC-3'	3751
		Stacker	5'-gtgttaagcacctgtttc-3'	3752

FIG. 49A-26

	1	Probe	5'-AACGAGGCGCACGACAGATTCCTTT NH2-3'	3753
		Arrestor	5'-aaaggaatctgtcgtgcgc-3'	3754
	2	Probe	5'-CCGTCACGCCTCGACAGATTCCTTT NH2-3'	3755
		Arrestor	5'-aaaggaatctgtcgaggcg-3'	3756
		Invader	5'-ATGTCGCAGTGACTTTCCCAATAGC-3'	3757
		Stacker	5'-tacctttatatgtgtcgattatgg-3'	3758
	1	Probe	5'-AACGAGGCGCACGGTTTTCAACTG NH2-3'	3759
		Arrestor	5'-cagttgaaaaccgtgcgc-3'	3760
	2	Probe	5'-CCGTCACGCCTCGGTTTTCAACTG NH2-3'	3761
		Arrestor	5'-cagttgaaaaccgaggcg-3'	3762
		Invader	5'-TCTGTGCAGAAACAATAGTTGTCTGC-3'	3763
		Stacker	5'-gagaggcaaaggcct-3'	3764
human SLC21A6	1	Probe	5'-AACGAGGCGCACCGTATTTGAAGACATAAG NH2-3'	3765
		Invader	5'-GGCTGACCATACTGTTGCTCTAA-3'	3766
		Stacker	5'-taaaagcaccaatatagctgct-3'	3767
		Arrestor	5'-cttatgtcttcaaatacggtgcgc-'3	3768
	1	Probe	5'-AACGAGGCGCACCAGCAGTAAAACAT NH2-3'	3769
		Invader	5'-aggtaaaaggACAATGACATCAA-3'	3770
		Stacker	5'-gagaatttggcaattccaacg-3'	3771
		Arrestor	5'-atgttttactgctggtgcgc-3'	3772
human SLC21A8	1	Probe	5'-AACGAGGCGCACCTACATATCCAATATC NH2-3'	3773
		Invader	5'-CTTAGGAGTTATTCTGATAGTGCTCAGATA-3'	3774
		Stacker	5'-cacgtacattttagcaaacagagat-3'	3775
		Arrestor	5'-gatattggatatgtaggtgcgc-3'	3776
	1	Probe	5'-AACGAGGCGCACCAAGAAGGATATCATC NH2-3'	3777
		Invader	5'-cagattagagggaaaTATAGAAGTTGAAAA-3'	3778
		Stacker	5'-gaagtaagaaatgaaaatttggcaattcc-3'	3779
		Arrestor	5'-gatgatatccttcttggtgcgc-3'	3780

FIG. 49A-27

	1	Probe	5'-AACGAGGCGCACTAAATGTGGTACCT NH2-3'	3781
		Invader	5'-CAGGTTGAACAATCTTCACAGTCAACAAGAA-3'	3782
		Stacker	5'-cctgttgcagagaacaaaga-3'	3783
		Arrestor	5'-aggtaccacatttagtgcgc-3'	3784
human SLC21A9	1	Probe	5'-AACGAGGCGCACGCTGTTGTC NH2-3'	3785
		Invader	5'-GCTGCAGTTGGTGTAGAAAACCTGC-3'	3786
		Stacker	5'-cagagcatcctggac-3'	3787
		Arrestor	5'-gacaacagcgtgcgc-3'	3788
	1	Probe	5'-AACGAGGCGCACCCAAAATCCTCA NH2-3'	3789
		Invader	5'-GGCTGGGCATCCAGGA-3'	3790
		Stacker	5'-ggaacatgaactggatgcc-3'	3791
		Arrestor	5'-tgaggattttgggtgcgc-3'	3792
	1	Probe	5'-CCGTCACGCCTCGCTAAGGCTC NH2-3'	3793
		Invader	5'-GTTCATTCCTACCTGACAGGAGATGC-3'	3794
		Stacker	5'-aaagaaggtgatccaggc-3'	3795
		Arrestor	5'-gagccttagcgaggcg-3'	3796
human SULT Pan 1A	1	Probe	5'-AACGAGGCGCACCCTTGACCTTC NH2-3'	3797
		Arrestor	5'-gaaggtcaagggtgcgc-3'	3798
	2	Probe	5'-CCGTCACGCCTCCCTTGACCTTC NH2-3'	3799
		Arrestor	5'-gaaggtcaagggaggcg-3'	3800
		Invader	5'-TTGCGTTGCGGGCAACATAGACCAA-3'	3801
		Invader	5'-TTGCGTTTCGGGCAACATAGACCAA-3'	3802
		Stacker	5'-tgatccaacagagtctgg-3'	3803
	1	Probe	5'-AACGAGGCGCACCCGCATCGAAG NH2-3'	3804
		Arrestor	5'-cttcgatgcgggtgcgc-3'	3805
	2	Probe	5'-CCGTCACGCCTCCCGCATCGAAG NH2-3'	3806
		Arrestor	5'-cttcgatgcgggaggcg-3'	3807
		Invader	5'-CTGCCATCTTCTCCGCATAGTA-3'	3808
		Stacker	5'-cgctcattctgcgc-3'	3809

FIG. 49A-28

	1	Probe	5'-AACGAGGCGCACCCGCATAGTC NH2-3'	3810
		Arrestor	5'-gactatgcgggtgcgc-3'	3811
	2	Probe	5'-CCGTCACGCCTCCCGCATAGTC NH2-3'	3812
		Arrestor	5'-gactatgcgggaggcg-3'	3813
		Invader	5'-TGCAGCCTGCCATCTTCTA-3'	3814
		Stacker	5'-cgcatcgaagcgctca-3'	3815
human UGT Pan 1A	1	Probe	5'-AACGAGGCGCACCAATTGCCATAGC NH2-3'	3816
		Arrestor	5'-gctatggcaattggtgcgc-3'	3817
	2	Probe	5'-CCGTCACGCCTCCAATTGCCATAGC NH2-3'	3818
		Arrestor	5'-gctatggcaattggaggcg-3'	3819
		Invader	5'-GAGGGATTTTGCCCAAAGCATCAGA-3'	3820
		Stacker	5'-tttcttctctggaatttctg-3'	3821
	1	Probe	5'-AACGAGGCGCACCGCTTTGCATT NH2-3'	3822
		Arrestor	5'-aatgcaaagcggtgcgc-3'	3823
	2	Probe	5'-CCGTCACGCCTCCGCTTTGCATT NH2-3'	3824
		Arrestor	5'-aatgcaaagcggaggcg-3'	3825
		Invader	5'-CAGCTCCCTTAGTCTCCATGA-3'	3826
		Stacker	5'-gtccatctgatcaccaaac-3'	3827
	1	Probe	5'-AACGAGGCGCACCGACGGCCAA NH2-3'	3828
		Arrestor	5'-ttggccgtcggtgcgc-3'	3829
	2	Probe	5'-CCGTCACGCCTCCGACGGCCAA NH2-3'	3830
		Arrestor	5'-ttggccgtcggaggcg-3'	3831
		Invader	5'-GTGATGAAGGCCACTGTCAGCAA-3'	3832
		Stacker	5'-gaggaaaccaatcacgtcc-3'	3833

FIG. 49A-29

		Secondary system	Oligo Sequence (5' to 3')	SEQ ID NO
		FRET probe	FL-CAC-Z28-TGC TTC GTG G	3834
		Secondary Reaction Template 1	CCA GGA AGC AAG TGG TGC GCC TCG ttt	3835
		Secondary Reaction Template 2	CCA GGA AGC AAG TGG AGG CGT GAC ggt	3836
		Secondary Reaction Template 3	CCA GGA AGC AAG TGA CGC AGC GAC ggt	3837
Assays	**SRT #**	**Oligo Type**	**Oligo Sequence (5' to 3')**	**SEQ ID NO**
hCEACAM5	1	Probe	AACGAGGCGCACTGTGAGCAGGA-NH_2	3838
		Invader	GGTTCCAGAAGGTTAGAAGTGAGGCA	3839
		Stacker	gcctctgccagg	3840
		Arrestor	tcctgctcacagtgcgc	3841
hCEACAM5	1	Probe	AACGAGGCGCACAATCACTGCGCC-NH_2	3842
		Invader	CCATAGAGGACATTCAGGATGACTGC	3843
		Stacker	tggcactcactggg	3844
		Arrestor	tcctgctcacagtgcgc	3845
hCEACAM5	1	Probe	AACGAGGCGCACAATCACTGCGC-NH_2	3846
		Stacker	ctggcactcactgg	3847
		Arrestor	gcgcagtgattgtgcgc	3848
hCEACAM5	2	Probe	CCGTCACGCCTCCTTGCTGTGT-NH_2	3849
		Invader	GGTTCTGGGTTTCACATTTGTAGA	3850
		Stacker	catttcttgtgacattgaatagagt	3851
		Arrestor	acacagcaaggaggcgc	3852
hCEACAM5	1	Probe	AACGAGGCGCACCACTGAGTAGA-NH_2	3853
		Invader	GGTCCTACATCATTCCTTGTGAA	3854
		Stacker	gtgagggtcctgtt	3855
		Arrestor	tctactcagtggtgcgc	3856

FIG. 49A-30

hCEACAM5	1	Probe	AACGAGGCGCACTTGCTGGAT-NH_2	3857
		Invader	TTGGAGATAAAGAGCTCTTGTGTGTGA	3858
		Stacker	gttcccatcaatcaga	3859
		Arrestor	atccagcaagtgcgc	3860
hNOS2A	2	Probe	CCGTCACGCCTCGTTTCTATCTCCTTTGT-NH_2	3861
		Invader	CGTCAGTTGGTCGGTTCCTGTTC	3862
		Arrestor	acaaaggagatagaaacgaggcg	3863
hNOS2A	2	Probe	CCGTCACGCCTCGTTTCTATCTC-NH_2	3864
		Invader	CGTCAGTTGGTCGGTTCCTGTTC	3865
		Stacker	ctttgttaccgcttcc	3866
		Arrestor	gagatagaaacgaggcg	3867
hOSM	1	Probe	AACGCGGCGCACTGTTGTTCCT-NH_2	3868
		Invader	GCTGGGCCATGCAGTAGAA	3869
		Stacker	gagcccgaggatgt	3870
		Arrestor	aggaacaacagtgcgc	3871
hOSM	1	Probe	AACGAGGCGCACTGTTGTTCC-NH_2	3872
		Stacker	tgagcccgaggatgt	3873
hOSM	1	Probe	AACGAGGCGCACGTCTGAGTTGT-NH_2	3874
		Invader	GTGGGCTCAGCCGTC	3875
		Stacker	ccagcagctggg	3876
		Arrestor	acaactcagacgtgcgc	3877
hICAM	2	Probe	CCGTCACGCCTCGGCTTGTGTGTTC-NH_2	3878
		Invader	CCGGGATAGGTTCAGGGAGGCGTC	3879
		Stacker	ggtttcatgggggtccct	3880
		Arrestor	gaacacacaagccgaggcg	3881

FIG. 49A-31

hICAM	1	Probe	AACGAGGCGCACGGCTTGTGT-NH_2	3882
		Invader	GATAGGTTCAGGGAGGCGTC	3883
		Stacker	gttcggtttcatgggg	3884
		Arrestor	acacaagccgtgcgc	3885
hICAM	1	Probe	AACGAGGCGCACGTATTTCTTGATCTTC-NH_2	3886
		Invader	TTTTGGGCCTGTTGTAGTCTC	3887
		Stacker	cgctggcggttatagag	3888
		Arrestor	gaagatcaagaaatacgtgcgc	3889
hICAM	1	Probe	AACGAGGCGCACACCATGGC-NH_2	3890
		Invader	CTAGTGTTTTAGGTGTGCAGGTC	3891
		Stacker	cccaaatgctgttgtatct	3892
		Arrestor	gccatggtgtgcgc	3893
hICAM	1	Probe	AACGAGGCGCACACCATGGCC-NH_2	3894
		Invader	CTAGTGTTTTAGGTGTGCAGGTC	3895
		Stacker	ccaaatgctgttgtatctga	3896
		Arrestor	ggccatggtgtgcgc	3897
Neomycin	1	Probe	AACGCGGCGCACGCCATTTTCCAC-NH_2	3898
		Invader	CCACAGTCGATGAATCCAGAAAAGCGA	3899
		Stacker	catgatattcggcaagcag	3900
		Arrestor	tggaaaatggcgtgcgc	3901
Neomycin	1	Probe	AACGCGGCGCACGCCATTTTCCA-NH_2	3902
		Stacker	ccatgatattcggcaagcag	3903

FIG. 49A-32

Neomycin	1	Probe	AACGAGGCGCACCAGTTCATTCAG-NH_2	3904
		Invader	CGCTGCCTCGTCCTGA	3905
		Stacker	ggcaccggacagg	3906
		Arrestor	ctgaatgaactggtgcgc	3907
hMMP3	2	Probe	CCGTCACGCCTCGTCCATTGTTCA-NH_2	3908
		Invader	TGGTCCCTGTTGTATCCTTTC	3909
		Stacker	tcatcatcaaagtgggca	3910
		Arrestor	tgaacaatggacgaggcg	3911
hMMP3	2	Probe	CCGTCACGCCTCGTCCATTGTTCAT-NH_2	3912
		Stacker	catcatcaaagtgggcatc	3913
		Arrestor	atgaacaatggacgaggcg	3914
hMMP13	1	Probe	AACGAGGCGCACTCAAGGGATAAGGA-NH_2	3915
		Invader	CCTCGGAGACTGGTAATGGCAA	3916
		Stacker	agggtcacatttgtctg	3917
		Arrestor	tccttatcccttgagtgcgc	3918
hMMP13	2	Probe	CCGTCGCTGCGTTTCTTCCC-NH_2	3919
		Invader	CAAGCTTTCTCCTGATAGCTCA	3920
		Stacker	ctaccccgcacttc	3921
		Arrestor	gggaagaaacgcag	3922
hMMP13	2	Probe	CCGTCGCTGCGTTTCTTCCCC-NH_2	3923
		Stacker	taccccgcacttct	3924
		Arrestor	ggggaagaaacgcag	3925
hMMP13	1	Probe	AACGAGGCGCACGGCATCAAGG-NH_2	3926
		Invader	GTTTCTCCTCGGAGACTGGTAATC	3927
		Stacker	gataaggaagggtcacatttg	3928
		Arrestor	ccttgatgccgtgcgc	3929

FIG. 49A-33

hMMP13	1	Probe	AACGAGGCGCACTCTTCTTCC-NH_2	3930
		Invader	GAACCAAGCTTTCTCCTGATAGCA	3931
		Stacker	cctaccccgcact	3932
		Arrestor	ggaagaagagtgcgc	3933
hLipc	1	Probe	AACGAGGCGCACCTTTTGTTCCGA-NH_2	3934
		Invader	AGAGTGATGGGAATTTTCTGCATTTTCTA	3935
		Stacker	gtagtgacatggtaaaagttgttt	3936
		Arrestor	tcggaacaaaaggtgcgc	3937
hLipc	1	Probe	AACGAGGCGCACCTTTTGTTCCG-NH_2	3938
		Invader	AGAGTGATGGGAATTTTCTGCATTTTCTA	3939
		Stacker	agtagtgacatggtaaaagttgt	3940
		Arrestor	cggaacaaaaggtgcgc	3941
hLipc	2	Probe	CCGTCACGCCTCCTTTTGTTCCGA-NH_2	3942
		Stacker	gtagtgacatggtaaaagttgttt	3943
		Arrestor	tcggaacaaaaggaggcg	3944
hLipc	2	Probe	CCGTCACGCCTCCTTTTGTTCCG-NH_2	3945
		Arrestor	cggaacaaaaggaggcg	3946
r/m Lipc	2	Probe	CCGTCACGCCTCGGAGTCAAT-NH_2	3947
		Invader	GCAGGTTGCTGTGTTGCAAC	3948
		Stacker	gaagaggtgcacagaacg	3949
		Arrestor	attgactccgaggcg	3950
r/m Lipc	1	Probe	AACGAGGCGCACTGATGGGAATTTTC-NH_2	3951
		Invader	GTAATTCCTTCGCCCAGGGA	3952
		Stacker	tttatttcttctttgtccc	3953
		Arrestor	gaaaattcccatcagtgcgc	3954

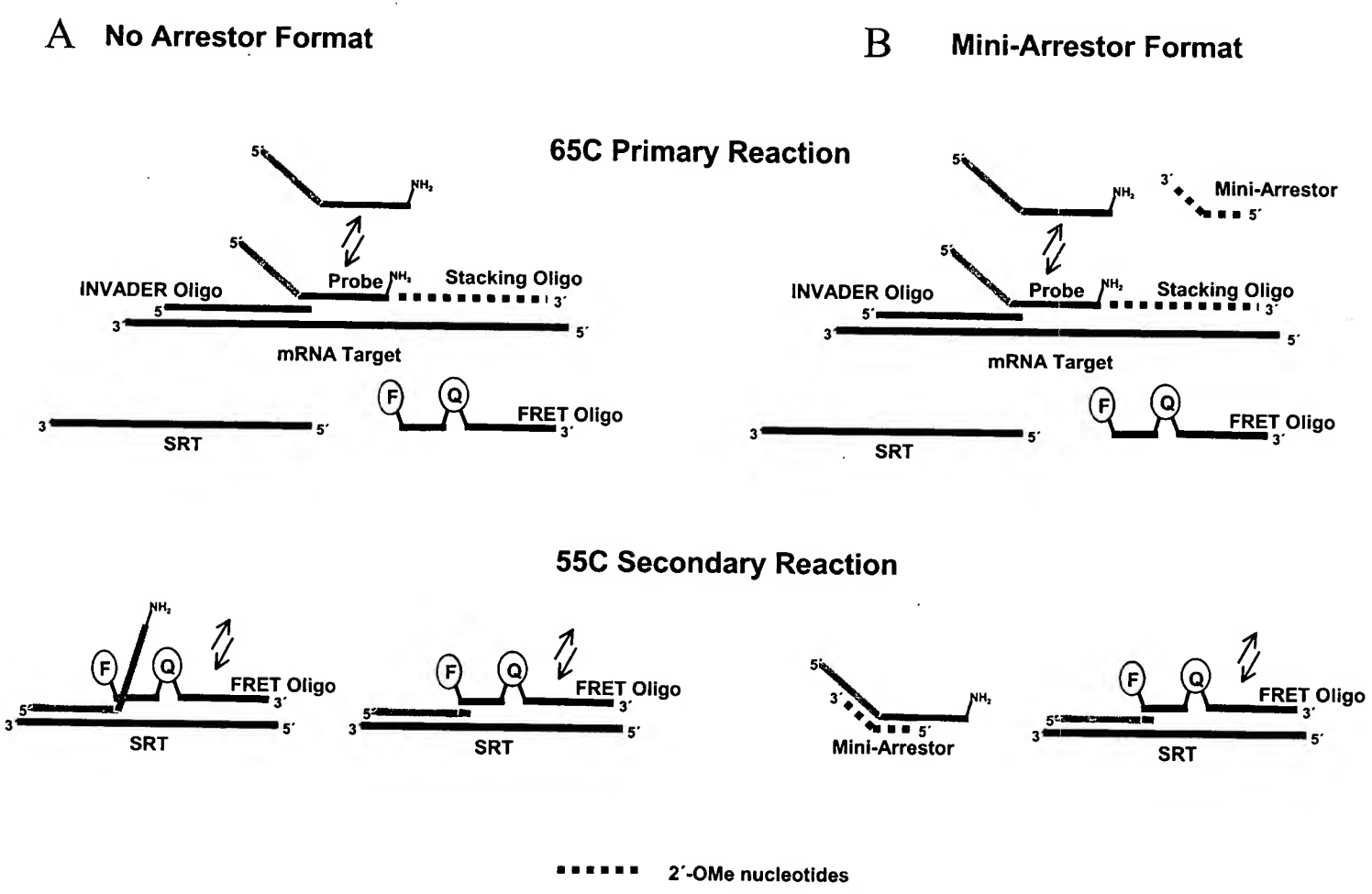
FIG. 49A-34

r/m Lipc	1	Probe	AACGAGGCGCACTGCTTCTTCA-NH_2	3955
		Invader	TCTCTTGACTCATCTGCTCTTTA	3956
		Stacker	gtcttttgacttcaggtc	3957
		Arrestor	tgaagaagcagtgcgc	3958
r/m Lipc	1	Probe	AACGAGGCGCACTGCTTCTTCAGT-NH_2	3959
		Invader	TCTCTTGACTCATCTGCTCTTTA	3960
		Stacker	cttttgacttcaggtcac	3961
		Arrestor	actgaagaagcagtgcgc	3962
hVCAM	2	Probe	CCGTCACGCCTCGCCTTTGTTTG-NH_2	3963
		Invader	GGGCAACATTGACATAAAGTGTTTGCGTACTCTC	3964
		Stacker	ggttcgaattccatgtcatc	3965
		Arrestor	caaacaaaggcgaggcg	3966
hVCAM	1	Probe	AACGAGGCGCACATGTGTAATTTAGCT-NH_2	3967
		Invader	GTGGGCACAGAATCCATTTCATCAC	3968
		Stacker	cggcaaacaagaacttttcca	3969
		Arrestor	agctaaattacacatgtgcgc	3970
hVCAM	1	Probe	AACGAGGCGCACATGTGTAATTTAGCTC-NH_2	3971
		Stacker	ggcaaacaagaacttttccaatat	3972
		Arrestor	gagctaaattacacatgtgcgc	3973
hVCAM	1	Probe	AACGAGGCGCACGCCTTTGTTTG-NH_2	3974
		Invader	GCAACATTGACATAAAGTGTTTGCGTACTCTC	3975
		Stacker	ggttcgaattccatgtcat	3976
		Arrestor	caaacaaaggcgtgcgc	3977
hVCAM	2	Probe	CCGTCACGCCTCGCCTTTGTTTG-NH_2	3978
		Invader	GCAACATTGACATAAAGTGTTTGCGTACTCTC	3979
		Stacker	ggttcgaattccatgtcat	3980
		Arrestor	caaacaaaggcgaggcg	3981

FIG. 49A-35

hRPL19	1	Probe	AAGCAGGCGCACCTTCCTTGG-NH_2	3982
		Invader	CTCTTCACGGCGCTTGCGTGA	3983
		Stacker	tcttagacctgcgagcc	3984
		Arrestor	ccaaggaaggtgcgc	3985
hRPL19	1	Probe	AACGAGGCGCACTGCTTCCTTG-NH_2	3986
		Invader	GCTCTTCACGGCGCTTGCGA	3987
		Stacker	gtcttagacctgcgagcc	3988
		Arrestor	caaggaagcagtgcgc	3989
r/m RPL19	1	Probe	AAGCAGGCGCACCTTCCTTGG-NH_2	3990
		Invader	CTCCCGGCGCTTTCGTGA	3991
		Stacker	tcttagacctgcgagcc	3992
		Arrestor	ccaaggaaggtgcgc	3993
r/m RPL19	1	Probe	AACGAGGCGCACTGCTTCCTTG-NH_2	3994
		Invader	CCTCCCGGCGCTTTCGA	3995
		Stacker	gtcttagacctgcgagcc	3996
		Arrestor	caaggaagcagtgcgc	3997
h18S rRNA		Probe	Red-CGA-EQ-TTTTACTTCC	3998
		Probe	Red-CGA-EQ-TTTTACTTCCTCT	3999
		Probe	Fl-CGACTTTTACTTCCTCT	4000
		INVADER oligonucleotide	GGTTCACCTACGGAAACCTTGTTAa	4001
		Stacker	tctagatagtcaagttcgaccg	4002
		Stacker	tctagatagtcaagttcgaccgtcttctc	4003
		Arrestor	agaggaagtaaaattcg	4004

FIGURE 50


A No Arrestor Format
B Mini-Arrestor Format
65C Primary Reaction
INVADER Oligo
Probe
Stacking Oligo
mRNA Target
FRET Oligo
SRT
Mini-Arrestor
55C Secondary Reaction
2′-OMe nucleotides